MHC-C90

SERVICE MANUAL

US Model
Canadian Model

- MHC-C90 is composed of following models. As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME FOR MHC-C90

AMPLIFIER, CASSETTE DECK	DXA-C90
CD PLAYER, TUNER	HCD-C90
SPEAKER SYSTEM	SS-M90N

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS
POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
With 6 ohm loads both channels driven, from 40 — 20,000 Hz; rated 100 watts per channel minimum RMS power, with no more than 0.9% total harmonic distortion from 250 milliwatts to rated output.

SS-M90N

Dimensions	Approx. 220 x 390 x 270 mm ($8\ 3/4$ x $15\ 3/8$ x $10\ 3/4$ in.) (w/h/d)
Mass	Approx. 6.1kg (13 lb 7 oz)

HCD-C90 and DXA-C90

Power requirements	120V AC, 60Hz
Power consumption	For U.S.A.: 220 watts For canada: 300VA
Dimensions	Approx. 225 x 390 x 310 mm ($8\ 7/8$ x $15\ 3/8$ x $12\ 1/4$ in.) (w/h/d) incl. projecting parts and controls
Mass	Approx. 12kg (26 lb 7 oz)
Supplied accessories	Remote Commander (1) Sony SUM-3 (NS) batteries (2) AM loop antenna (1) FM antenna (1) AC power cord (1) Flat cord (1) Speaker cords (2)

Design and specifications subject to change without notice.

PARTS LIST

NOTE :
- Items marked " * " are stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-467-257-11	REMOTE COMMANDER (RM-S939)	
	1-501-374-11	ANTENNA, LOOP	
	1-557-954-21	CORD, SPEAKER CONNECTION (2.5m)	
⚠	1-575-706-11	CORD, POWER	
	1-751-469-11	CORD (WITH CONNECTOR) (DXA-HCD)	
	3-372-531-01	SCREW, TRANSPORT (HCD)	
	3-703-710-41	STICKER, SONY SYMBOL (12) (DXA)	
	3-757-495-21	MANUAL, INSTRUCTION (ENGLISH, FRENCH)	
	3-707-584-21	COVER, BATTERY (COMMANDER)	
*	4-957-358-01	CUSHION (SS)	
*	4-960-392-01	CUSHION (FRONT)	
*	4-960-393-01	CUSHION (REAR)	
*	4-960-394-01	INDIVIDUAL CARTON	

MINI HI-FI COMPONENT SYSTEM

SONY®

English
93H0932-1D
Printed in Japan
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Published by Audio Sector Quality Assurance Dept.

Sony Corporation
Audio Group

9-959-102-11

DXA-C90

SERVICE MANUAL

US Model
Canadian Model

This set is the Amplifier, cassette deck section in MHC-C90.

Tape deck Section	Model Name Using Similar Mechanism		HCD-H61M
	Tape Transport Mechanism Type	DECK A	TCM-190RA12A
		DECK B	TCM-190RB42A

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION: With 6 ohm loads both channels driven, from 40 — 20,000 Hz; rated 100 watts per channel minimum RMS power, with no more than 0.9% total harmonic distortion from 250 milliwatts to rated output.

Amplifier Section

Continuous RMS power output
100 + 100 watts (6 ohms at 40 Hz — 20 kHz, 0.9% THD)
130 + 130 watts (6 ohms at 1 kHz, 5% THD)

Inputs
VIDEO IN (phono jacks): sensitivity 250 mV, impedance 47 kilohms
MD/DAT IN (phono jacks): sensitivity 250 mV, impedance 47 kilohms

Outputs
HEADPHONES (stereo minijack): accepts headphones of 8 ohms or more
SPEAKERS: accepts speakers of 6 to 16 ohms
MD/DAT OUT (phono jacks): voltage 250 mV impedance 1 kilohm

Cassette Deck Section

Recording system 4-track 2-channel stereo
Frequency response (DOLBY NR OFF)
40 — 13,000 Hz (±3 dB), using TYPE I cassette (Sony HF-S)
40 — 14,000 Hz (±3 dB), using TYPE II cassette (Sony UX-S or UX)
40 — 15,000 Hz (±3 dB), using TYPE IV cassette (Sony ES-IV)
Wow and flutter 0.1% WRMS ±0.3% (DIN)

Design and specifications subject to change without notice.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ◻◻ are trademarks of Dolby Laboratories Licensing Corporation.

使用時は添付資料も参照のこと
Refer to the additional documents.

MINI Hi-Fi COMPONENT SYSTEM

SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

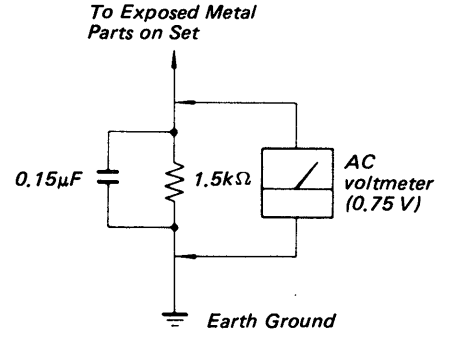

Fig. A. Using an AC voltmeter to check AC leakage.

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

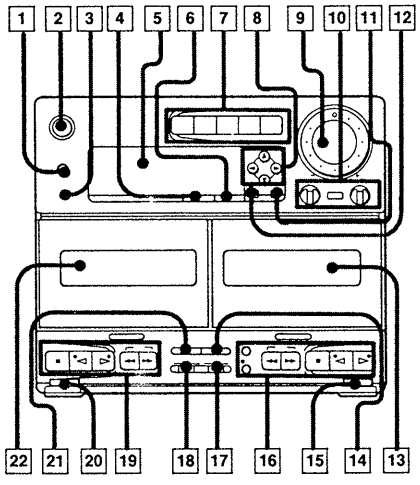
ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
GENERAL

This section is extracted from instruction manual.

A



Amplifier/Cassette Deck Section
A

Amplifier

[1] HEADPHONES jack (stereo minijack)
[2] SYSTEM POWER switch and ON/STANDBY indicator
The indicator remains lit as long as the AC power cord is connected to a wall outlet.
[3] DISPLAY button
[4] EFFECT button
[5] Display window
[6] MEMORY button
[7] Function buttons and indicators
VIDEO
TAPE
MD/DAT
CD
TUNER
[8] Cursor control buttons
[9] VOLUME control
[10] Dynamic Bass System (DBS) controls and indicator
LEVEL control
FREQ (frequency) control
[11] OFF button
[12] MODE button

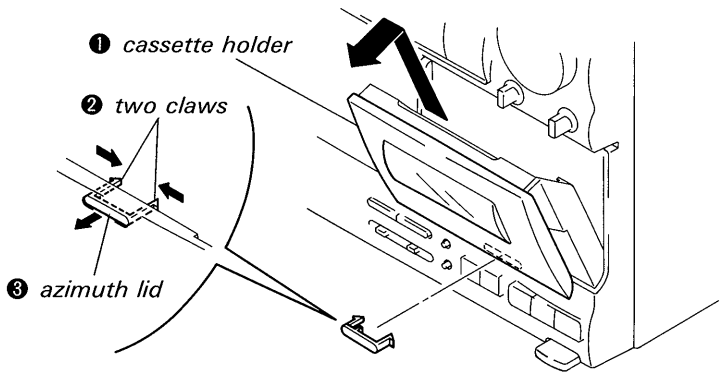
Cassette Deck

[13] Cassette holder (deck B)
[14] CD SYNCHRO button
[15] ⏏ Eject button (deck B)
[16] Tape operation buttons (for deck B)
■: Stop button
▷: Forward play button and indicator
◁: Reverse play button and indicator
AMS ◀◀▶▶: Fast winding buttons
❚❚ PAUSE: Pause button and indicator
● REC: Recording button and indicator
[17] DOLBY NR (Dolby Noise Reduction) selector (39)
[18] DIRECTION mode selector
[19] Tape operation buttons (for deck A)
■: Stop button
▷: Forward play button and indicator
◁: Reverse play button and indicator
AMS ◀◀▶▶: Fast winding buttons
[20] ⏏ Eject button (deck A)
[21] HIGH SPEED DUBBING button
[22] Cassette holder (deck A)

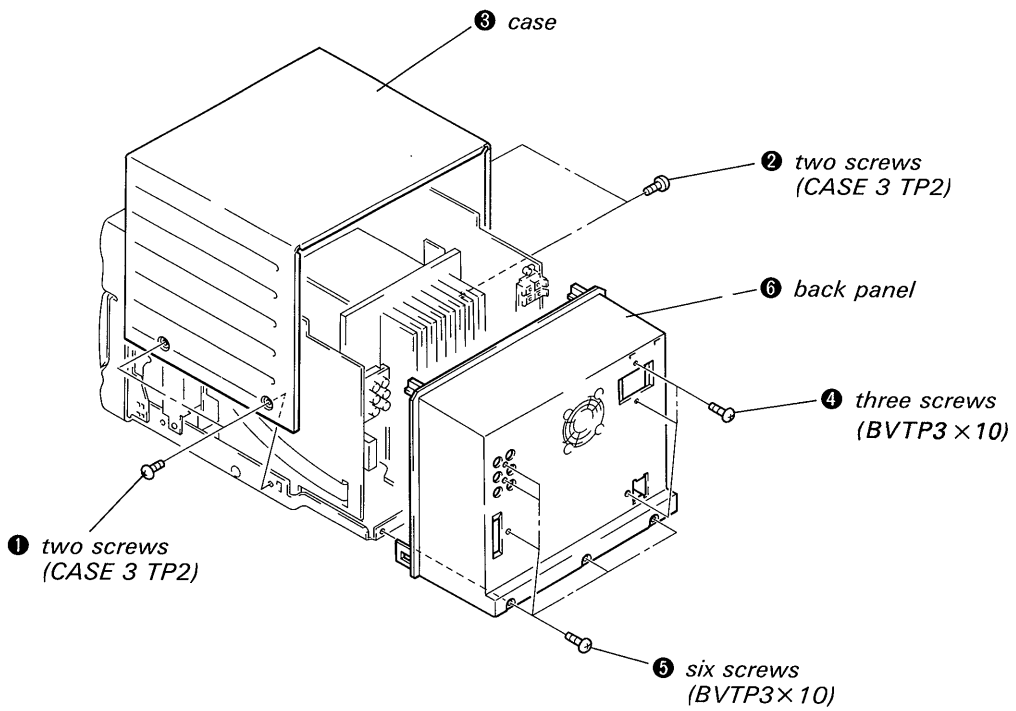
SECTION 2
DISASSEMBLY

NOTE: Follow the disassembly procedure in the numerical order given.

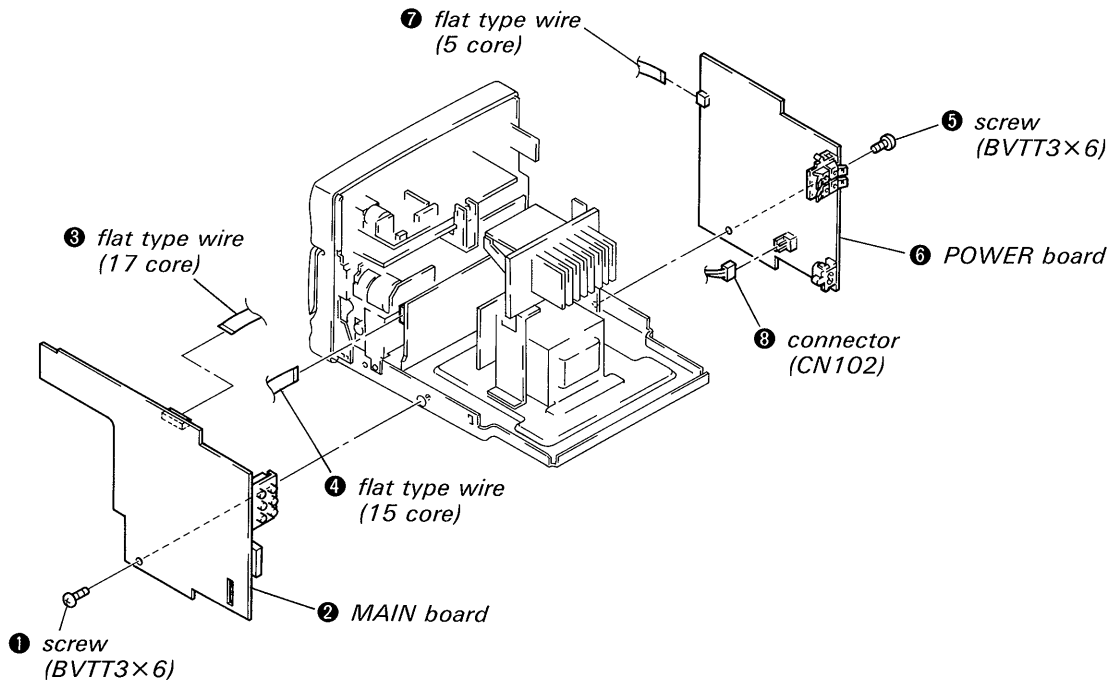
2-1. CASSETTE HOLDER, AZIMUTH LID



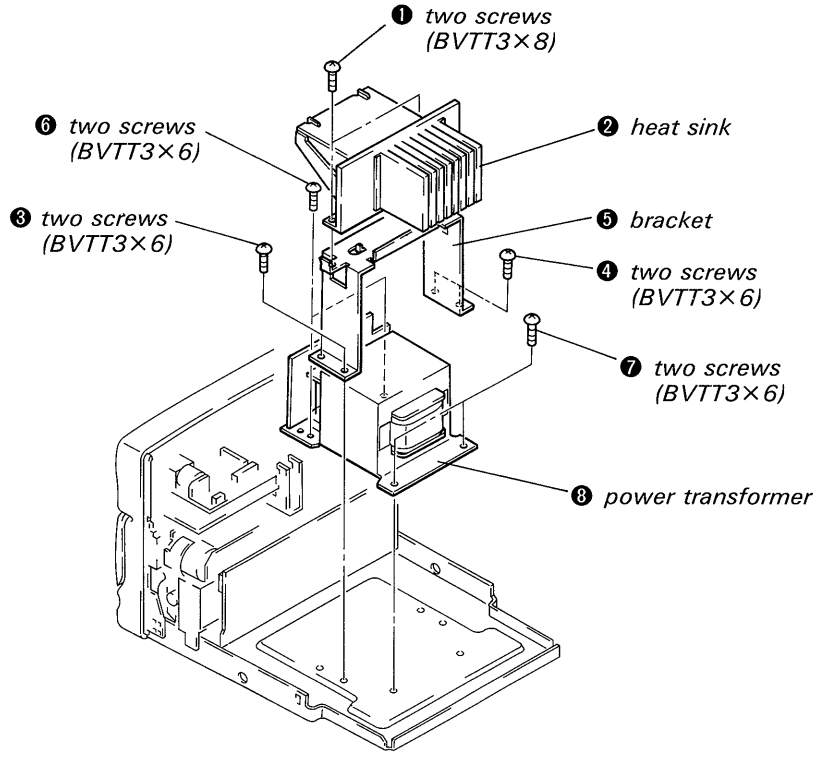
2-2. CASE, BACK PANEL



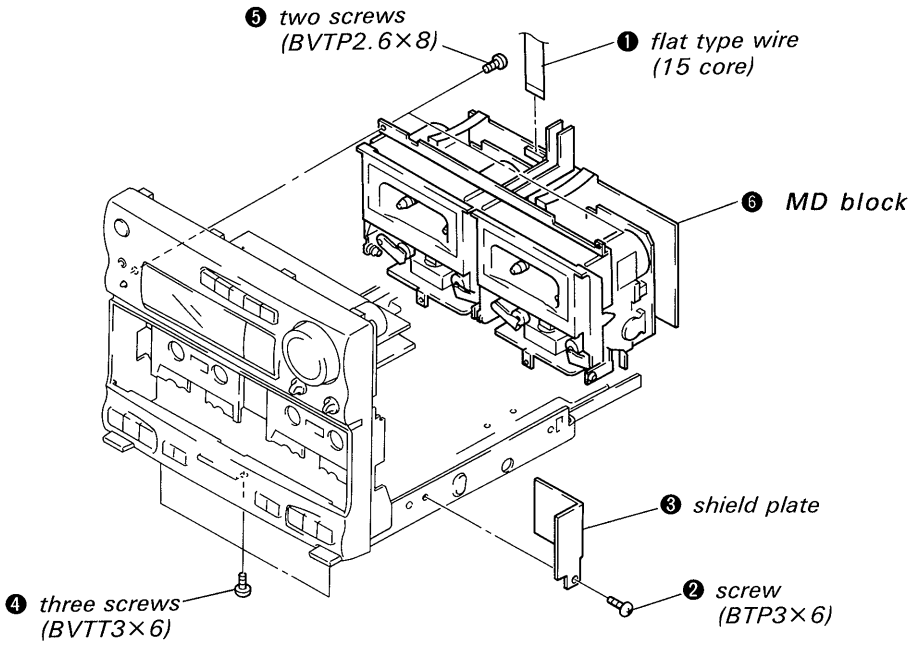
2-3. MAIN/POWER BOARDS


❼ flat type wire (5 core)
❺ screw (BVTT3×6)
❸ flat type wire (17 core)
❻ POWER board
❽ connector (CN102)
❹ flat type wire (15 core)
❷ MAIN board
❶ screw (BVTT3×6)

2-4. POWER TRANSFORMER



2-5. MD BLOCK


❺ two screws
(BVTP2.6×8)
❶ flat type wire
(15 core)
❻ MD block
❸ shield plate
❷ screw
(BTP3×6)
❹ three screws
(BVTT3×6)

SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab :

record/playback head	pinch roller
erase head	rubber belt
capstan	idler

2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustment.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustment should be performed with the rated power supply voltage unless otherwise noted.

• Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	35 to 60g • cm (0.49 to 0.83oz • inch)
Forward back tension	CQ-102C	2 to 6g • cm (0.028 to 0.08oz • inch)
Reverse	CQ-102RC	35 to 60g • cm (0.49 to 0.83oz • inch)
Reverse back tension	CQ-102RB	2 to 6g • cm (0.028 to 0.08oz • inch)
FF/REW	CQ-201B	70 to 110g • cm (0.98 to 1.52oz • inch)

SECTION 4
ELECTRICAL ADJUSTMENTS

DECK SECTION

1. The adjustment should be performed in the publication. (Be sure to make playback adjustment at first.)
2. The adjustment and measurement should be performed for both L-CH and R-CH.
   • Switch position
   DOLBY NR switch : OFF
3. Short the connector TP401 (test mode), before electrical adjustments.

• Test Tape

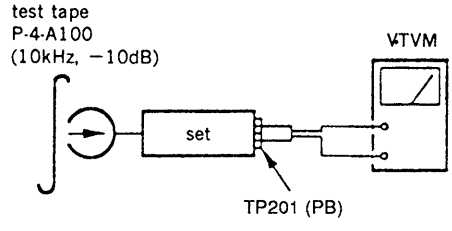
Tape	Contents	Use
P-4-A100	10kH, −10dB	Head Azimuth Adjustment
P-4-L300	315Hz, 0dB	Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment

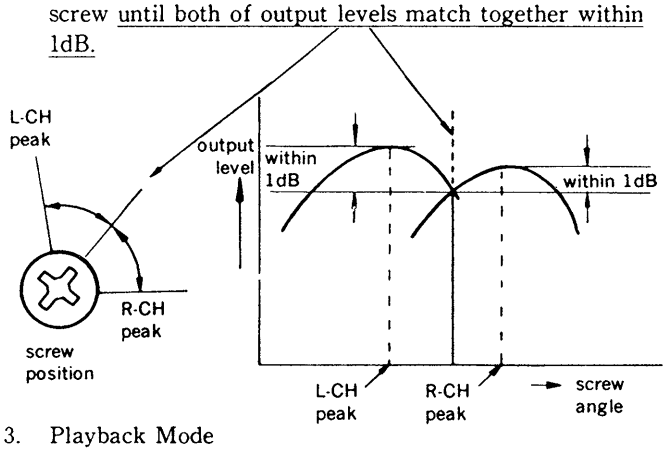
DECK A **DECK B**

Procedure :

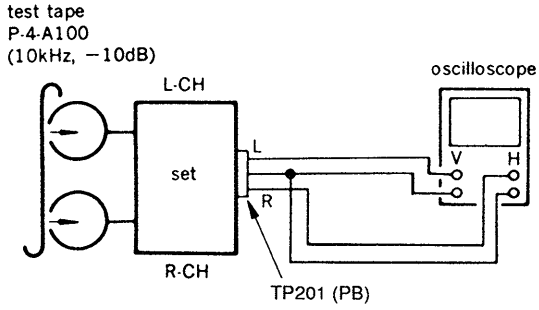
1. Forward Playback Mode
   Reverse Playback Mode

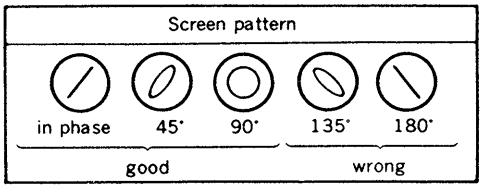


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



3. Playback Mode

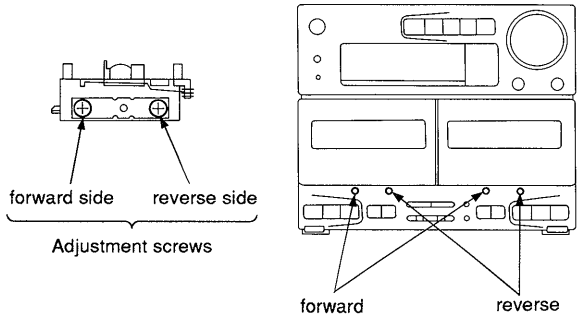




4. Change the review playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screw with suitable locking compound.

Adjustment Location :

—record/playback head (deck A and B)

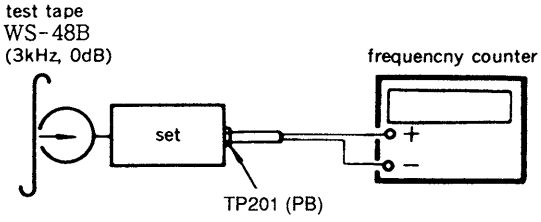


Tape Speed Adjustment DECK A DECK B

Procedure :

- Perform high speed adjustment before normal speed adjustment.

Mode : playback



Speed	Deck	Adjustment	Frequency counter
※ High	A	RV72	5,970 to 6.030Hz
	B	RV72	
Normal	A	RV71	2,985 to 3,015Hz
	B	RV71	

※ Continue to press HIGH SPEED DUBBING switch (S357) in playback mode : High speed playback.

Frequency difference between the begining and the end of the tape should be within ±3%.

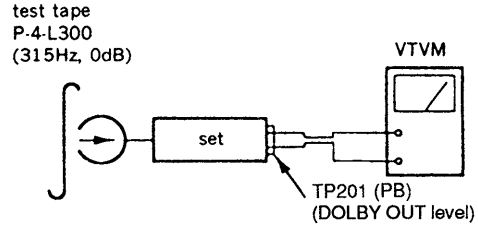
Frequency difference between deck A and deck B the biginning of the tape should be within 1.5%.

Adjustment Location: MD (AX) and MD (BX) boards.

Playback Level Adjustment DECK A DECK B

Procedure :

Mode : playback



Deck A is RV11 (L-CH) and RV21 (R-CH), deck B is RV11 (L-CH) and RV21 (R-CH) so that adjustment within adjustment level as follows.

Adjusment Level :

LINE OUT level : −12.7 ± 1.0dB (0.16 to 0.20)

Level Difference between Channels : within 0.5dB

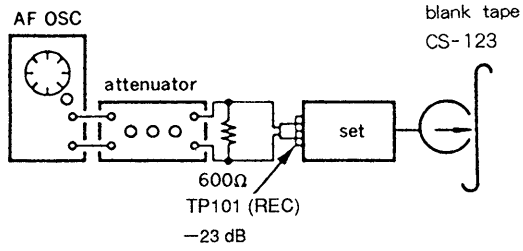
Confirm the DOLBY OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MD (AX) and MD (BX) boards

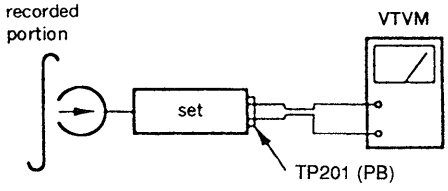
Record Bias Adjustment DECK B

Procedure :

1. record mode



2. playback mode



Confirm playback the signal recorded in step 1 become adjustment level as follows.
If these levels do not adjustment level, adjusment the RV12 (L-CH) and RV22 (R-CH) to repeat step 1 and 2.

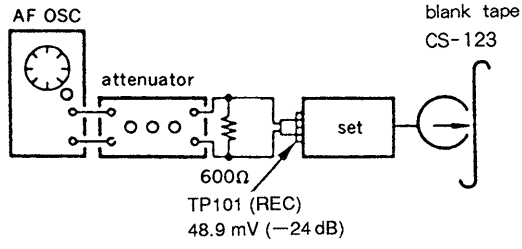
Adjusment level : Playback output of 315Hz to playback output of 10kHz : 0dB±0.5dB.

Adjustment Location : MD (BX) board

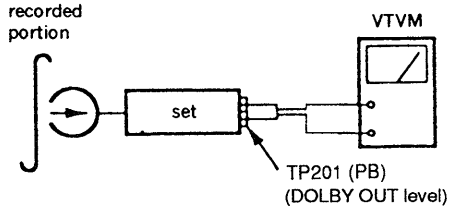
Record Level Adjustment DECK B

Procedure :

1. record mode



2. playback mode



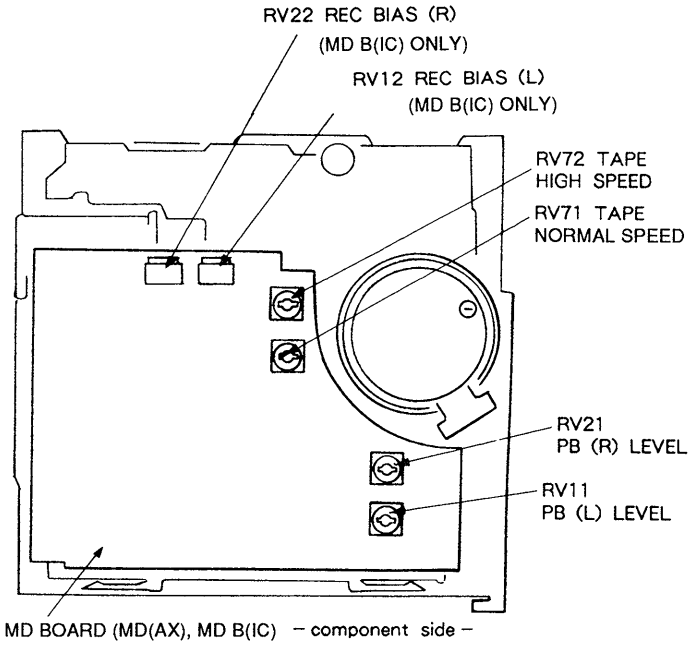
Confirm playback the signal recorded in step become adjustment level as follows.
If these levels do not adjustment level, adjusment the RV201 (L-CH) and RV301 (R-CH) to repeat step 1 and 2.

Adjusment Level :
DOLBY OUT level : −24dB±0.5dB (0.046 to 0.051V)

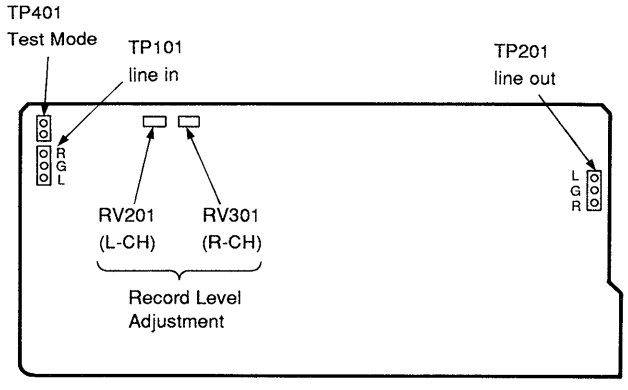
Adjustment Location : TC MAIN board

Adjustment Location :

Mechanism deck − rear side −



TC MAIN board — component side —



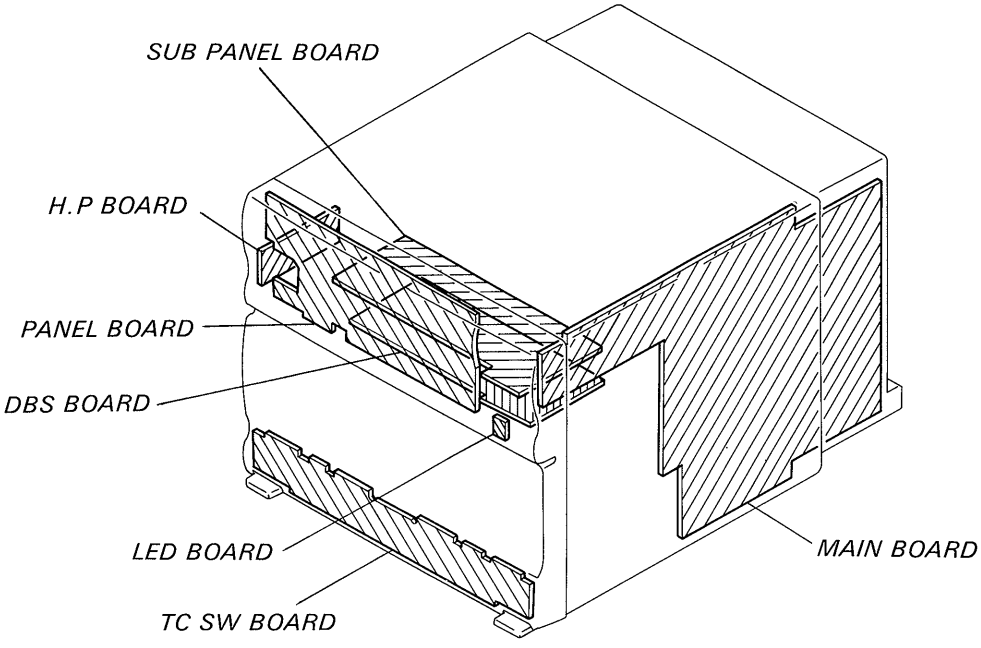
SECTION 5
DIAGRAMS

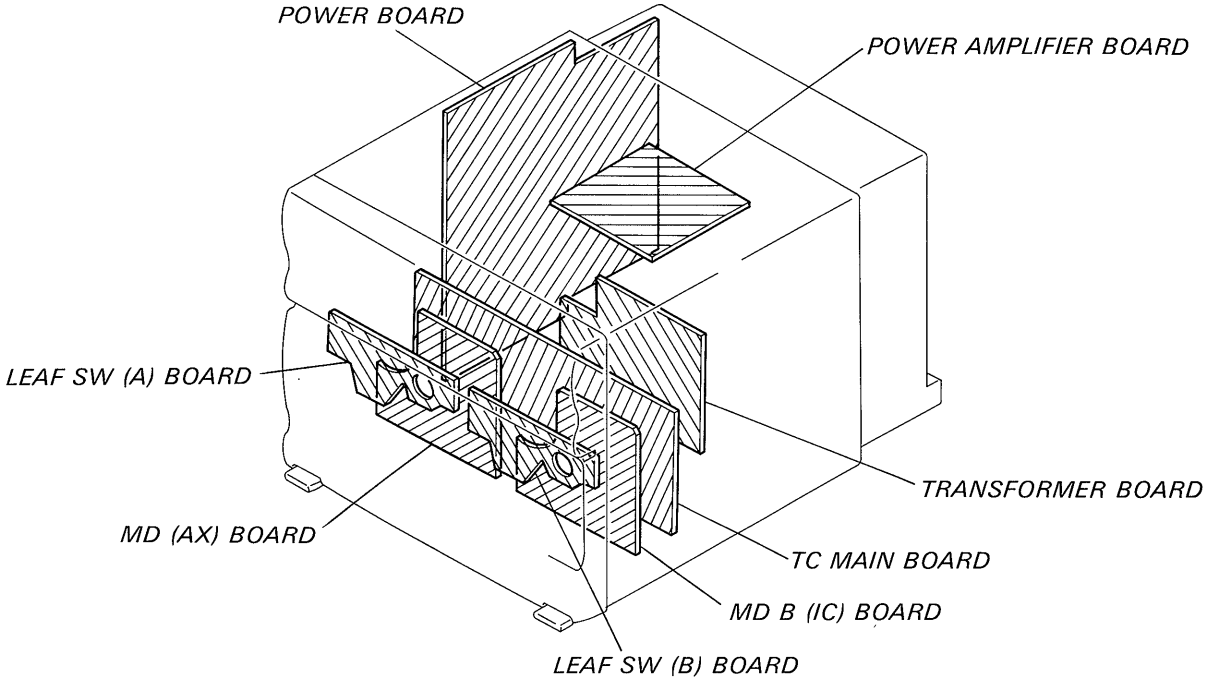
5-1. IC PIN FUNCTION DESCRIPTION

• IC821 TMP87CC78F

Pin. No.	Name	I/O	Description
1	VDD		+5V
2 3	FUNC.A FUNC.B	O	Function switching; VIDEO (PHONO), TAPE, MD/DAT, CD/TUNER
4	SURR.C	O	ON/OFF of DSP
5 6	SURR.A SURR.B	O	Level switching of Surround or DSP
7	CD-OFF	O	ON/OFF of CD
8 9	NC		
10	C90/C70	I	Model identification L for DXA-C70 or DXA-J570C, H for DXA-C90, Presence of PHONE
11	PHONO/VIDEO	I	L for PHONO not provided, H for PHONO provided
12	KARAOKE-PON	I	Presence of KARAOKE PON
13	NC		
14	KEY0	I	Input of keyboard switch
15	KEY1	I	Input of keyboard switch
16	NC		
17	SPE-IN-L	I	Input of spectrum analyzer level 63k, 160k, 400k, 1k (Hz)
18	SPE-IN-R	I	Input of spectrum analyzer level 2.5k, 6.3k, 16k (Hz)
19	NC		
20	VOL.UP	O	UP/DOWN of volume
21	VOL.DOWN	O	UP/DOWN of volume
22	VSS		0V (GND)
23	AVSS		Analog reference GND for A/D conversion
24	AVREF		Analog ref. voltage for A/C conversion
25	VDD		+5V
26	STOP	I	At L, STOP mode becomes active to stop oscillation circuit, CPU core and peripheral circuits, thus reducing power consumption.
27	GND	I	Fixed to GND
28	POWER-ON/OFF	O	L when the system power is turned on.
29	MUTE	O	Muting of audio signal at L
30	VSS		0V (GND)
31	XI	I	High frequency oscillator connect pins
32	XO	O	
33	NRST	I	RESET signal input
34 | 39	LED	O	LED lighting ports
40 41	NC		
42	GEQ-CLK	O	Clock output to graphic equalizer
43	GEQ-DATA	O	Serial data output to graphic equalizer
44	NC		
45 46	SPE-A SPE-B	O	Band switching of spectrum analyzer circuit
47	NC		
48	AUBUS-OUT	O	AU bus output
49	AUBUS-IN	I	AU bus input
50	VKK		Power for fluorescent display tube driving
51 | 63 64 | 82	G13 | G1 P38 | P19	O	8-bit highly durable output ports for fluorescent display tube
83 | 98	P18 | P3	I/O	8-bit highly durable I/O ports for fluorescent display tube
99 100	P2 P1	I/O	2-bit highly durable I/O ports for fluorescent display tube

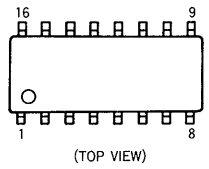
5-2. CIRCUIT BOARDS LOCATION





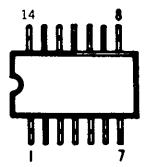
5-3. SEMICONDUCTOR LEAD LAYOUTS

CD4052BCM
CD4053BCM



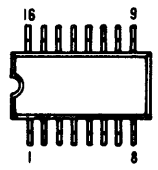
(TOP VIEW)

CD4066BCM



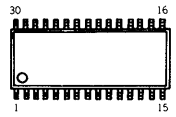
(TOP VIEW)

CXA1101M
CXA1578M



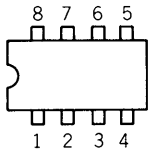
(TOP VIEW)

CXA1331M



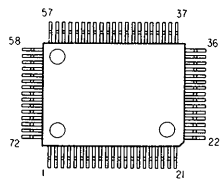
TOP VIEW

LB1638
M5218AP

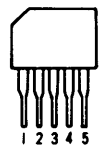


(Top view)

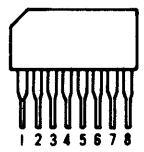
M50964-260FP



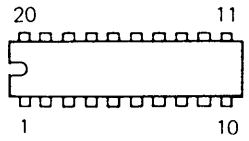
M51953BL



M5230L-A

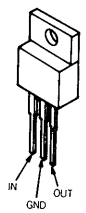


M5289P

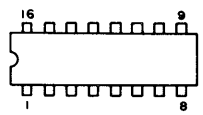


(Top view)

M5F78M07L
M5F79M07L
TA7805S

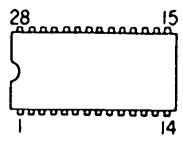


MC14052BCP
XR1091DCP



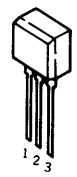
(TOP VIEW)

NJU7305L



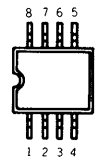
(Top view)

PST572E



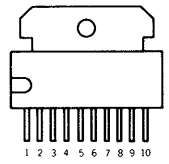
1 : Vcc
2 : GND
3 : Out put

RC4558PS



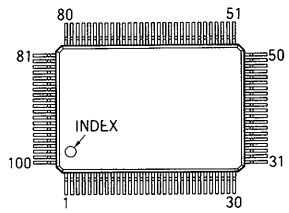
(TOP VIEW)

TA7272P



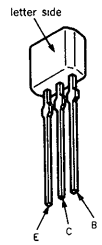
MARKING SIDE VIEW

TMP87CC78F-6104

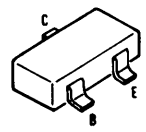


(TOP VIEW)

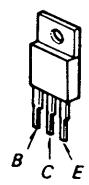
2SA-1175-HFE
2SC3623A-LK



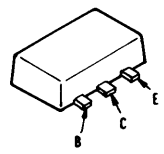
2SA1602-F
2SC4154-F
DTA144EK
RN1402
RN2402
RN2404TE85L



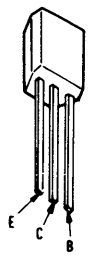
2SB1094-LK
2SD2012



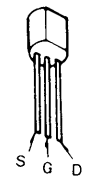
2SB1122-S



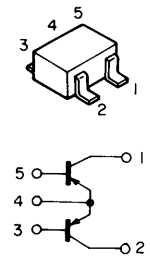
2SC2603-EF
DTA114ES
DTC114ES



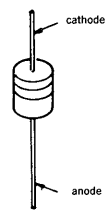
2SK246-GR3



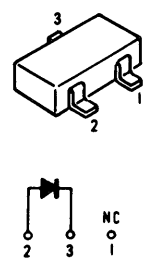
XN1114



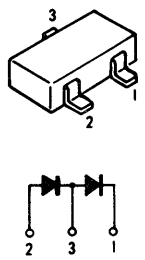
11ES2
2SC2603-EF



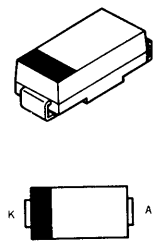
1SS184
UZM5.6X
UZM8.2Z



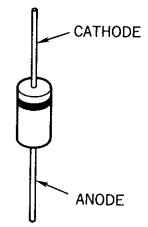
1SS226



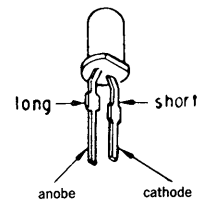
EC10DS2



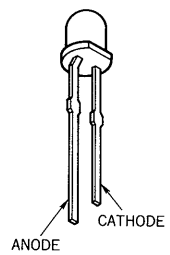
1N4148M
UZ-5.1BSC



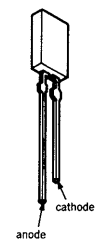
SEL2210S-CD



SEL2810A



SEL4225C-C
SEL4525C-C
SEL4925A-D



5-4. PRINTED WIRING BOARDS —TC Section—

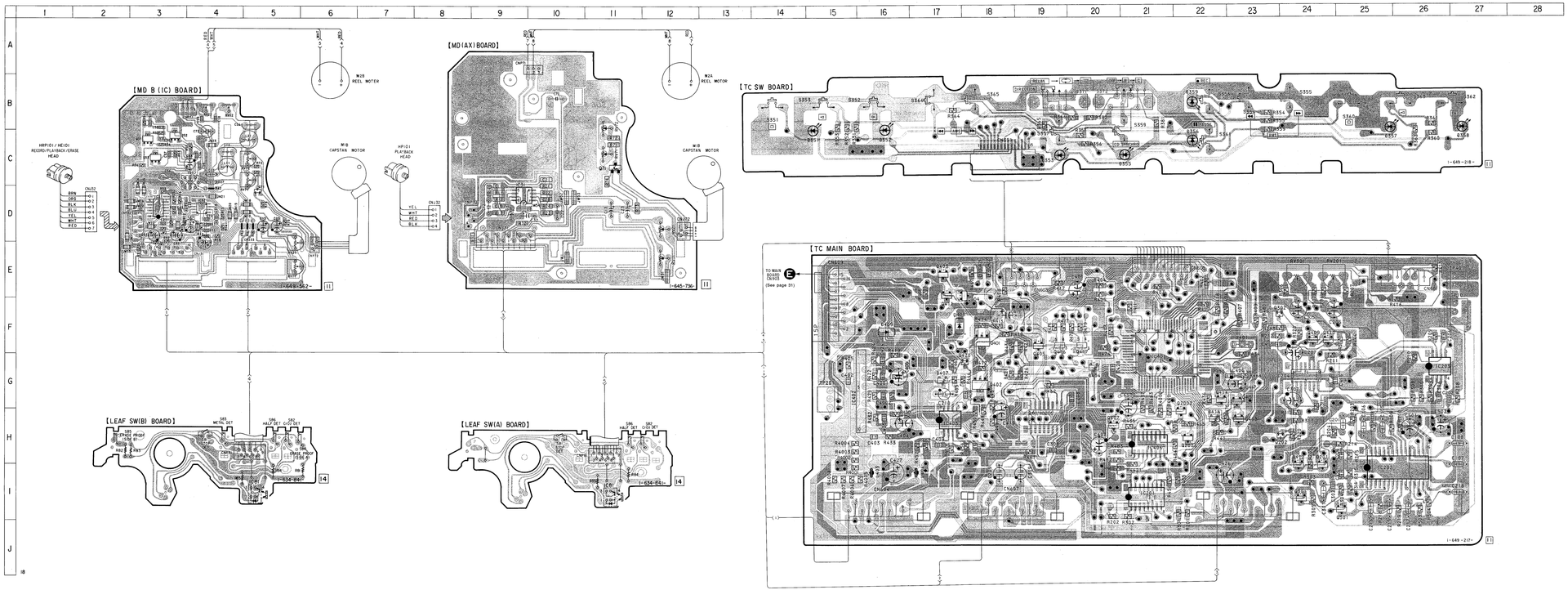
● See page 11—13 for Circuit Boards Location and Semiconductor Lead Layouts.

● Semiconductor Location

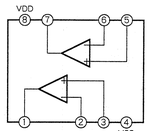
Ref. No.	Location
D351	B-12
D352	B-16
D353	C-19
D355	C-21
D356	C-22
D357	B-25
D358	B-27
D359	B-22
D404	G-20
D407	G-17
D408	F-17
D409	F-16
D416	H-22
IC31A	D-9
IC31B	D-3
IC32	D-4
IC81A	I-11
IC81B	I-5
IC201	I-21
IC202	H-25
IC203	G-26
IC204	G-24
IC205	H-19
IC401	G-21
IC402	G-16
IC403	H-17
IC405	G-22
IC406	H-21
Q71A	C-11
Q71B	C-5
Q201	I-24
Q202	H-23
Q301	I-24
Q302	F-24
Q401	F-18
Q402	G-18
Q403	E-17
Q404	E-17
Q405	F-19
Q407	H-20
Q408	H-23
Q409	F-24
Q410	F-24
Q411	E-17
Q412	I-24
Q414	G-22
Q415	G-22
Q416	F-19
Q417	F-20
Q420	G-17
Q501	I-25
Q2001	H-22
Q2002	H-22

Note:

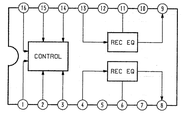
- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
A B C D E F G H I J
[MD B (IC) BOARD]
[MD(AX)BOARD]
[TC SW BOARD]
[TC MAIN BOARD]
[LEAF SW(B) BOARD]
[LEAF SW(A) BOARD]
M28 REEL MOTOR
M18 CAPSTAN MOTOR
HRP(D)1 / HE(D)1 RECORD/PLAYBACK/ERASE HEAD
HP(D)1 PLAYBACK HEAD
TO Main BOARD (CN650) (See page 31)
1-649-542-
1-645-736-
1-649-218-
1-649-217-
1-634-841-
1-634-843-

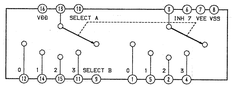
IC31 μPC4570G2



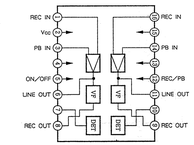
IC205 CXA1578



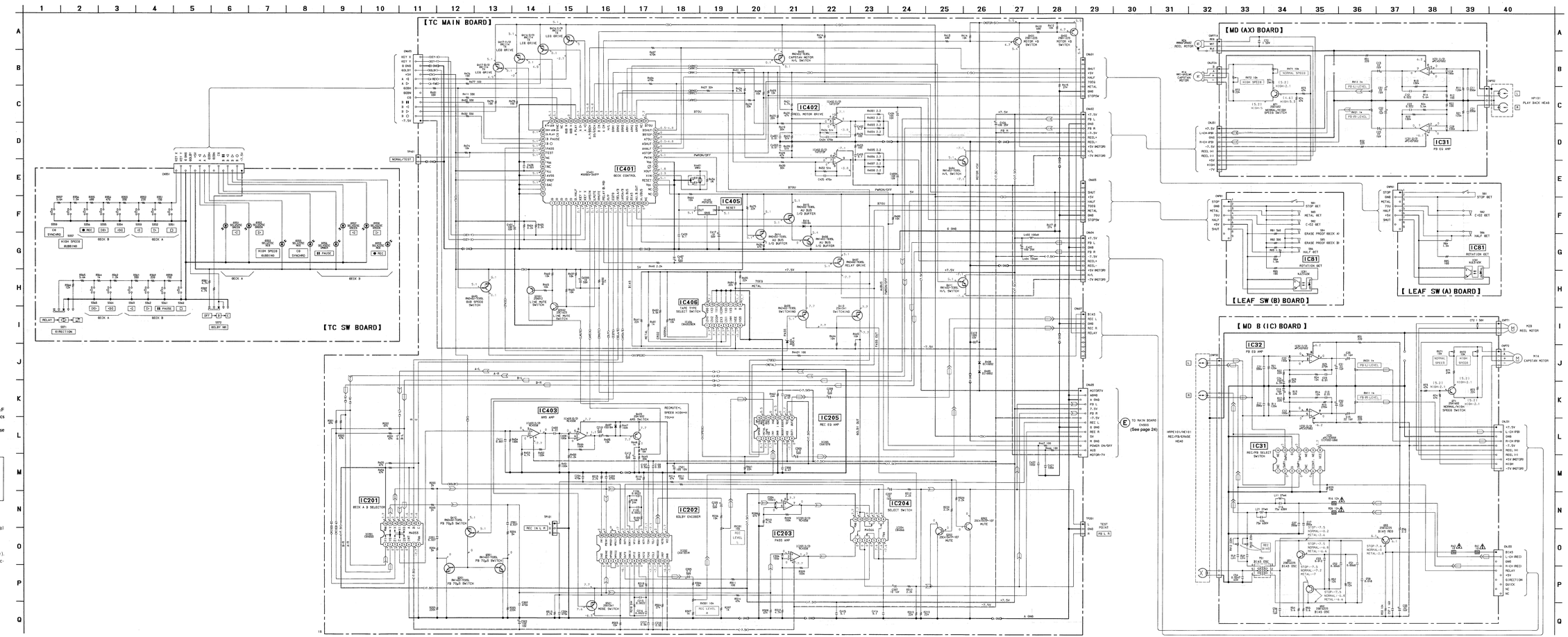
IC406 CD4052BCM



IC202 CXA1331M



5-5. SCHEMATIC DIAGRAM —TC Section—



Note:

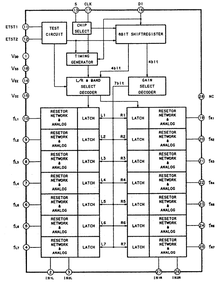
- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- : nonflammable resistor.
- : fusible resistor.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

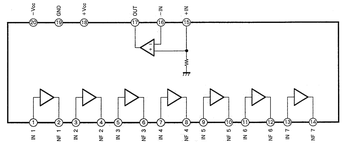
- : B+ Line
- : B− Line
- : adjustment for repair.
- Voltage is dc with respect to ground under no-signal conditions.
  no mark : PLAY
  ( ) : REC
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : PB (DECK A)
  : PB (DECK B)
  : REC (DECK B)

(E) TO MAIN BOARD CN303 (See page 24)

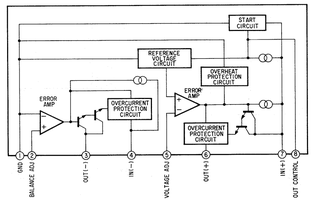
IC621 NJU7305L



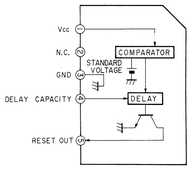
IC601, 651 M5289P



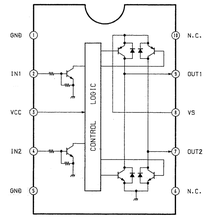
IC901 M5230L-A



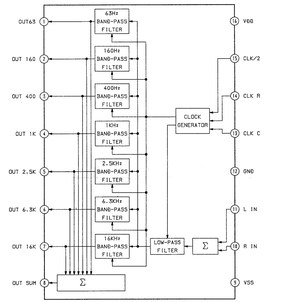
IC811 M51953BL



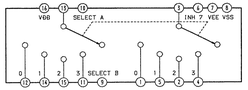
IC641 LB1638



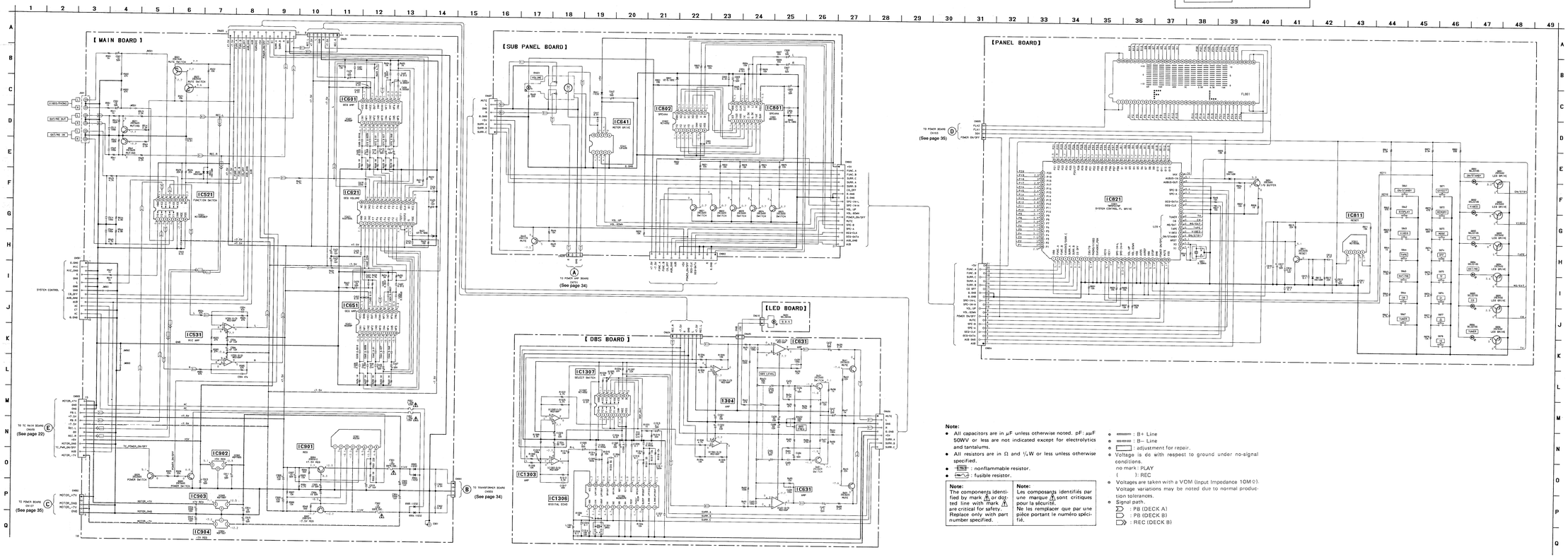
IC801 XR1901DCP



IC802 MC14052BCP



5-6. SCHEMATIC DIAGRAM —MAIN Section—



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- : nonflammable resistor.
- : fusible resistor.

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- : B+ Line
- : B– Line
- : adjustment for repair.
- Voltage is dc with respect to ground under no-signal conditions.
  no mark : PLAY
  ( ) : REC
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : PB (DECK A)
  : PB (DECK B)
  : REC (DECK B)

5-7. PRINTED WIRING BOARDS—MAIN Section—

● See page 11—13 for Circuit Boards Location and Semiconductor Lead Layouts.

● Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D521	D-17	IC902	F-15
D522	E-17	IC903	H-14
D621	D-13	IC904	H-14
D641	G-3	IC1303	C-7
D801	F-6	IC1304	C-5
D802	G-6	IC1306	C-6
D813	J-2	IC1307	C-6
D851	I-3		
D891	I-7	Q511	D-15
D892	I-4	Q521	D-14
D893	I-4	Q522	D-15
D894	I-3	Q561	D-15
D895	I-3	Q631	C-3
D896	I-2	Q643	E-3
D903	F-13	Q811	J-2
D904	F-13	Q821	G-5
D905	F-13	Q822	G-5
D906	F-13	Q823	G-5
		Q824	G-4
IC521	E-18	Q825	G-6
IC531	E-16	Q851	I-2
IC601	C-14	Q891	I-8
IC621	D-14	Q892	I-4
IC631	C-4	Q893	I-3
IC641	F-3	Q894	I-3
IC651	E-14	Q895	I-2
IC801	F-6	Q896	I-2
IC802	F-7	Q903	F-13
IC811	K-2	Q904	G-13
IC821	J-6	Q907	H-13
IC901	H-15	Q929	F-13

Note:
- ○—— : parts extracted from the component side.
- ▒▒ : Pattern on the side which is seen.

【H.P. BOARD】

I-649-242-

【DBS BOARD】

I-649-872-

【SUB PANEL BOARD】

I-649-240-

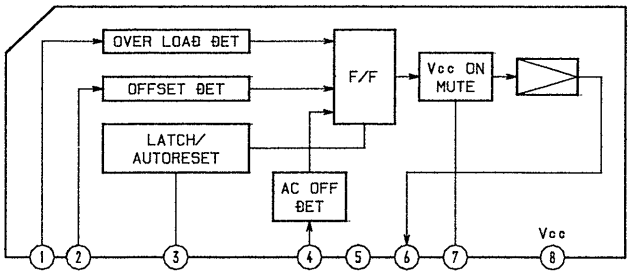
【PANEL BOARD】

I-649-239-

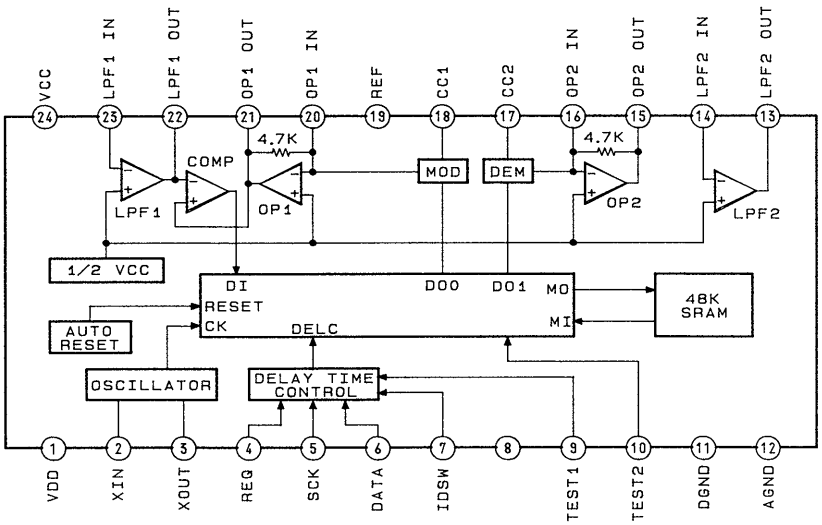
【MAIN BOARD】

I-649-238-

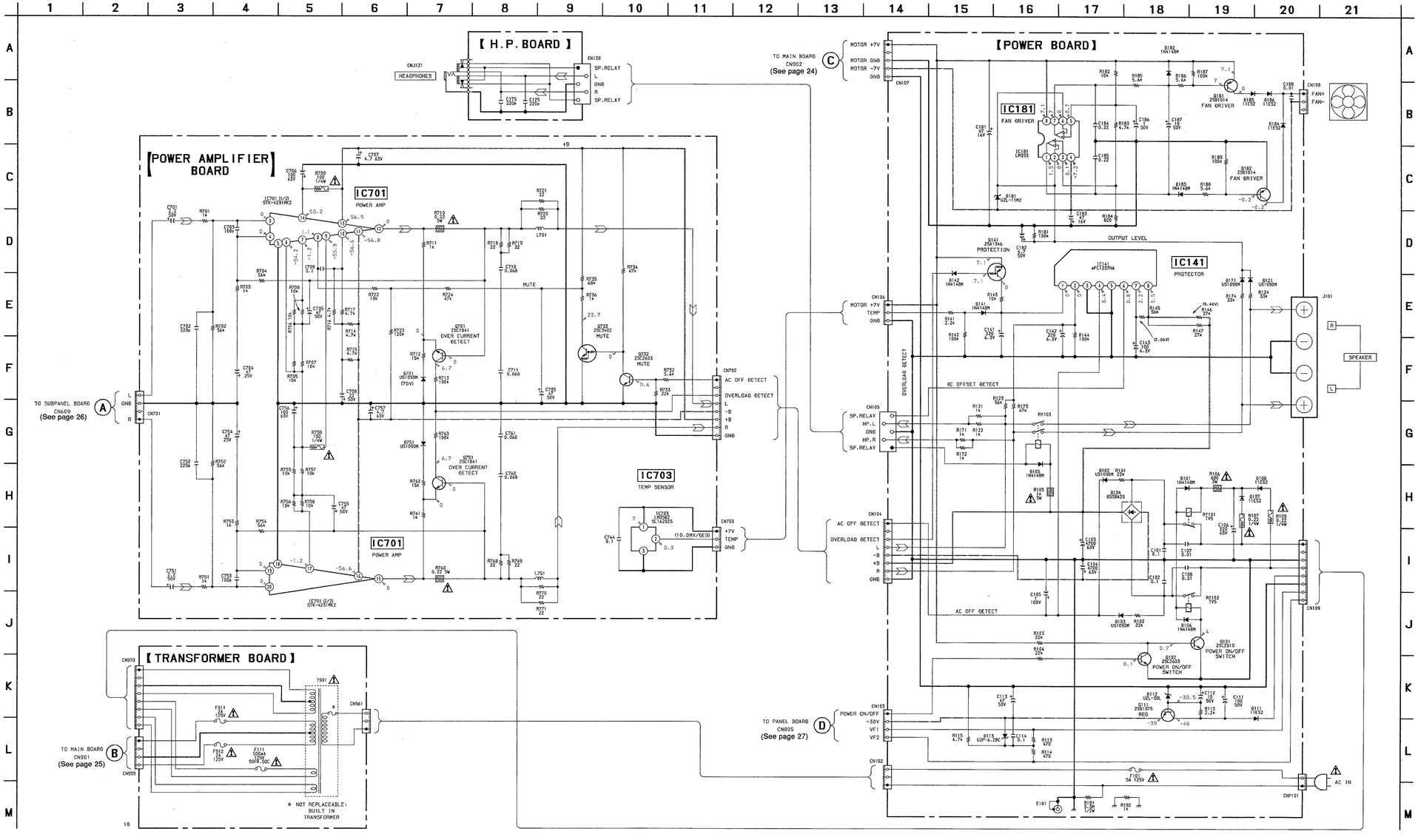
IC141 μPC1237HA



IC1306 M65831P



5-8. SCHEMATIC DIAGRAM—POWER Section—



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- : nonflammable resistor.
- : fusible resistor.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- : B+ Line
- : B− Line
- : adjustment for repair.
- Voltage is dc with respect to ground under no-signal conditions.
  no mark: PLAY
  ( ): REC
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

5-9. PRINTED WIRING BOARDS
—POWER Section—

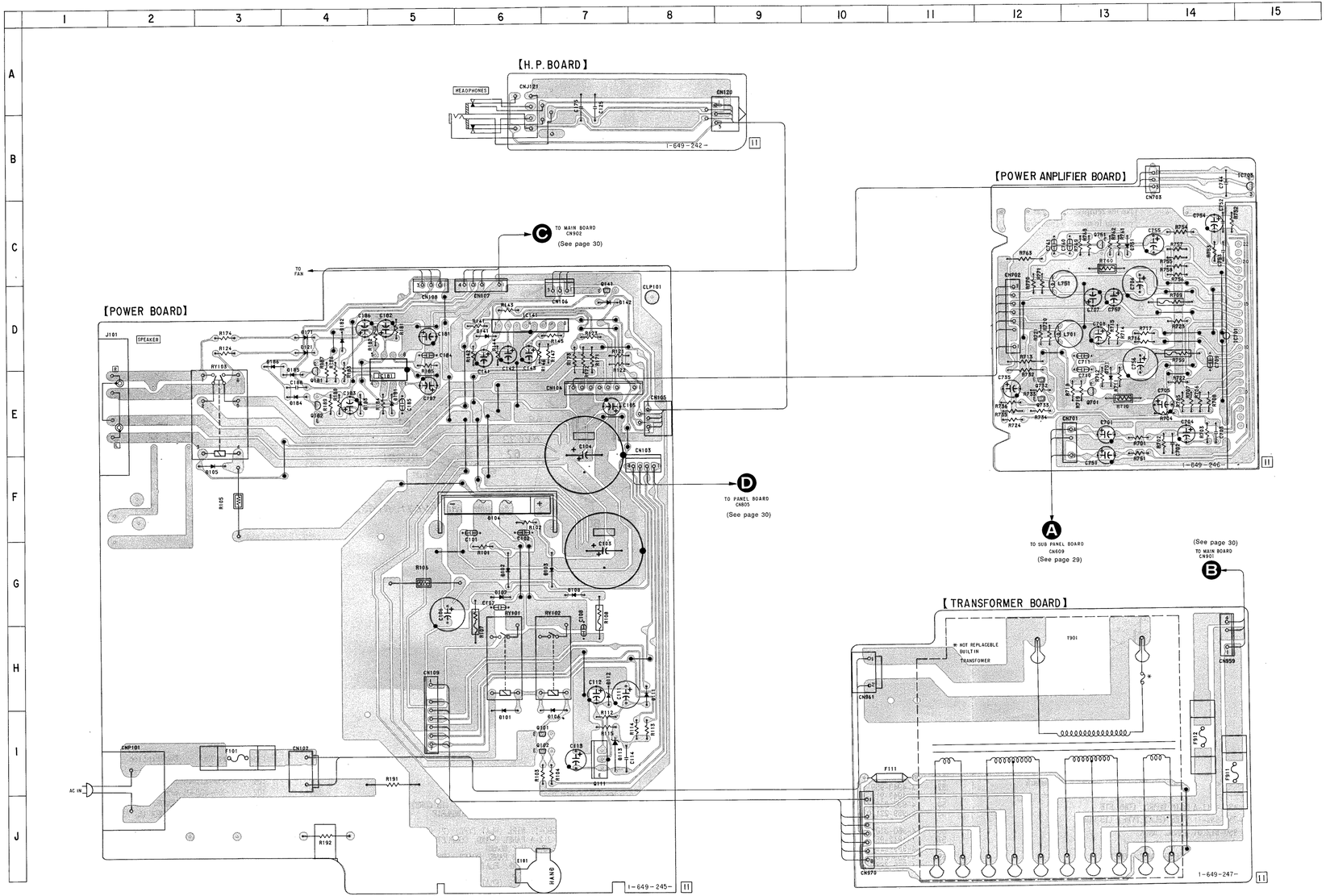
● See page 11—13 for Circuit Boards Location and Semiconductor Lead Layouts.

● **Semiconductor Location**

Ref. No.	Location
D101	H-6
D102	G-6
D103	G-6
D104	F-7
D105	F-2
D106	H-6
D107	G-6
D108	G-7
D111	H-8
D112	H-8
D113	I-8
D121	D-4
D141	D-6
D142	D-7
D171	D-4
D181	E-5
D182	D-5
D183	E-4
D184	E-4
D185	E-4
D186	E-3
D701	E-13
D751	C-13
IC141	D-7
IC181	E-5
IC701	E-15
IC703	C-15
Q101	I-7
Q102	I-7
Q111	I-7
Q141	D-7
Q181	E-4
Q182	E-4
Q701	E-13
Q732	E-12
Q733	E-12
Q751	C-13

Note:

- ○—— : parts extracted from the component side.
- ▒▒▒ : Pattern on the side which is seen.



SECTION 6
EXPLODED VIEWS

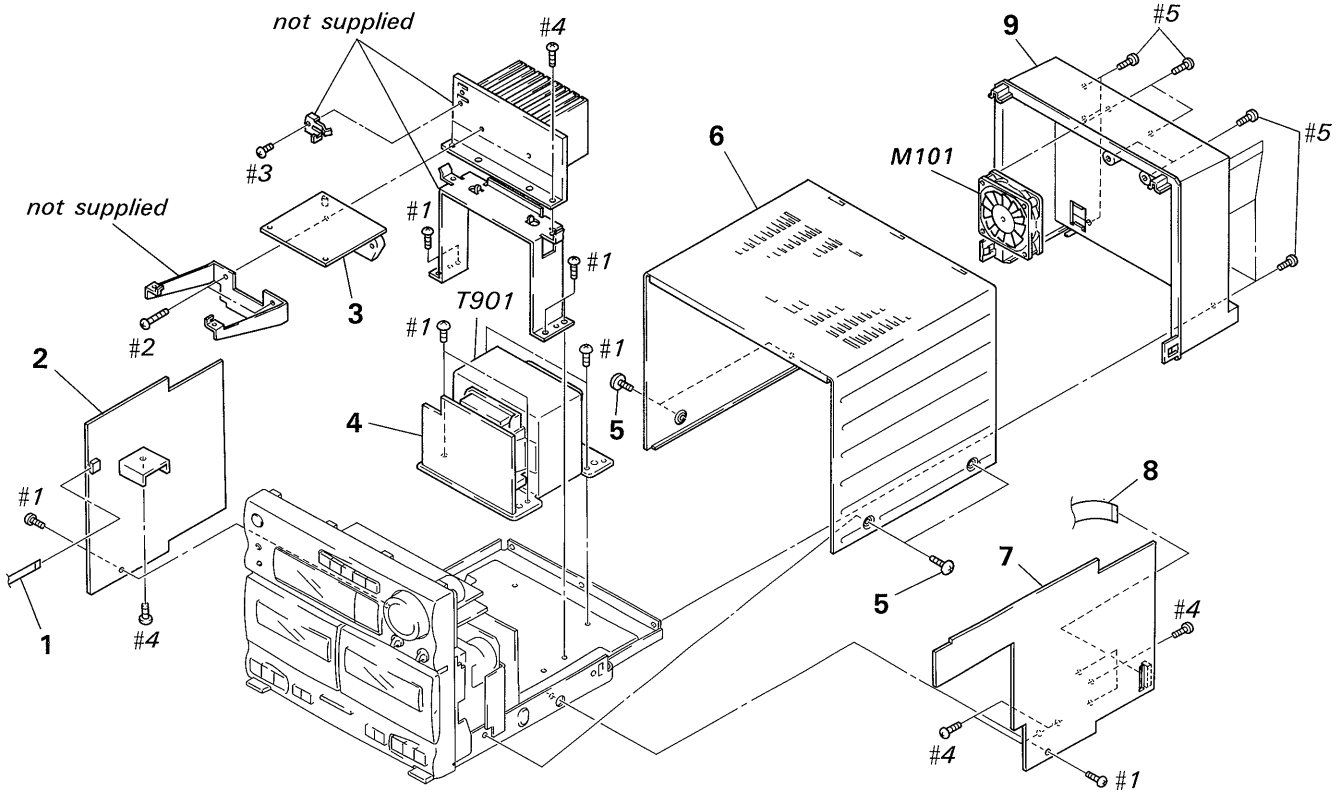
NOTE:

- -xx,-x mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (#mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

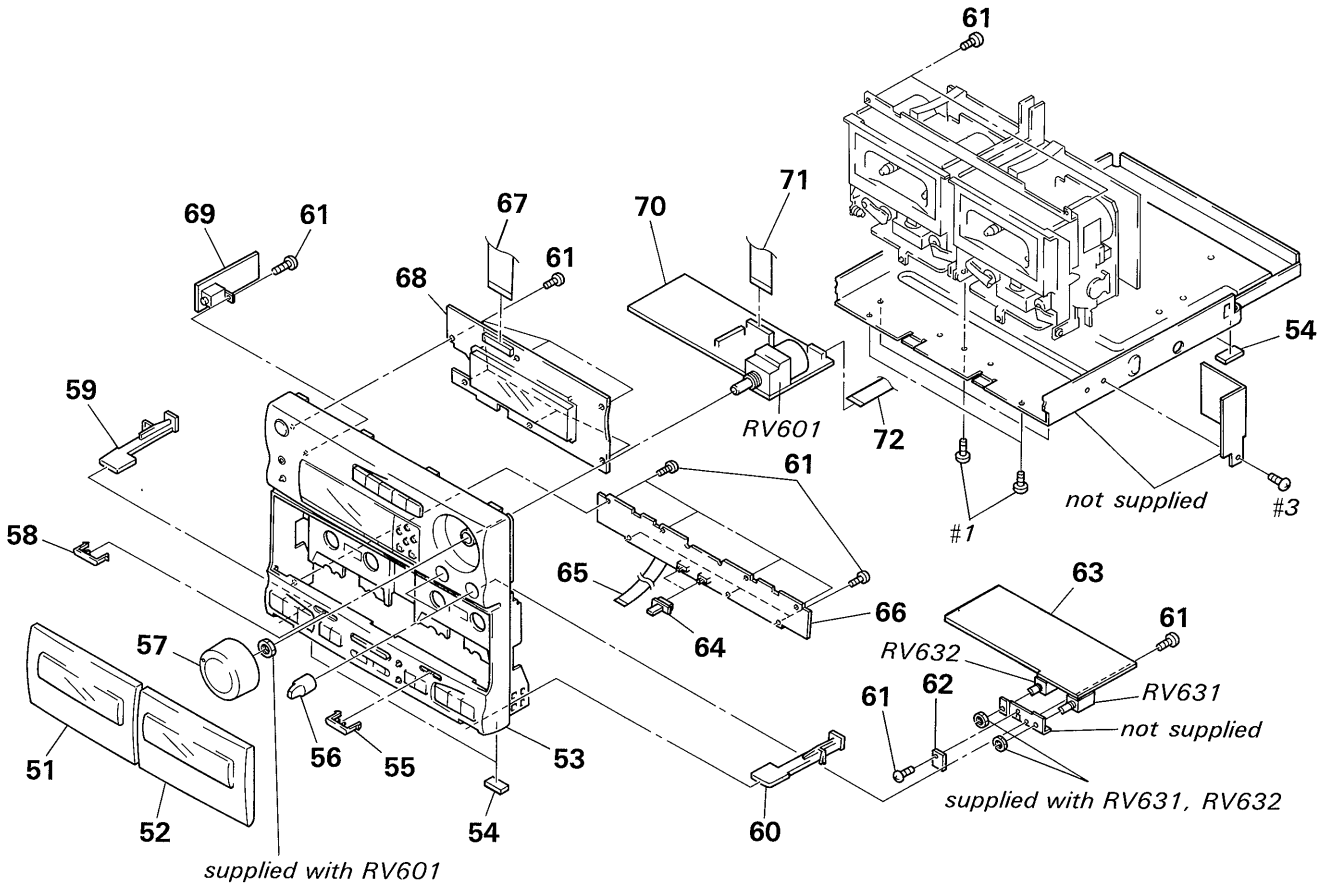
Les components identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièc portant le numéro spéccifié.

6-1. CASE, POWER SECTION



Ref.No.	Part No.	Description	Remark
1	1-751-686-11	WIRE (FLAT TYPE) (5 CORE)	
*2	A-4365-219-A	POWER BOARD, COMPLETE	
*3	A-4365-222-A	POWER AMPLIFIER BOARD, COMPLETE	
*4	1-649-247-11	TRANSFORMER BOARD	
5	3-363-099-01	SCREW (CASE 3 TP2)	
*6	4-960-313-41	CASE	
*7	A-4365-211-A	MAIN BOARD, COMPLETE	
8	1-751-689-11	WIRE (FLAT TYPE) (15 CORE)	
*9	4-960-312-01	PANEL, BACK	
M101	1-698-173-11	MOTOR, FAN (DC)	
⚠T901	1-423-780-11	TRANSFORMER, POWER	

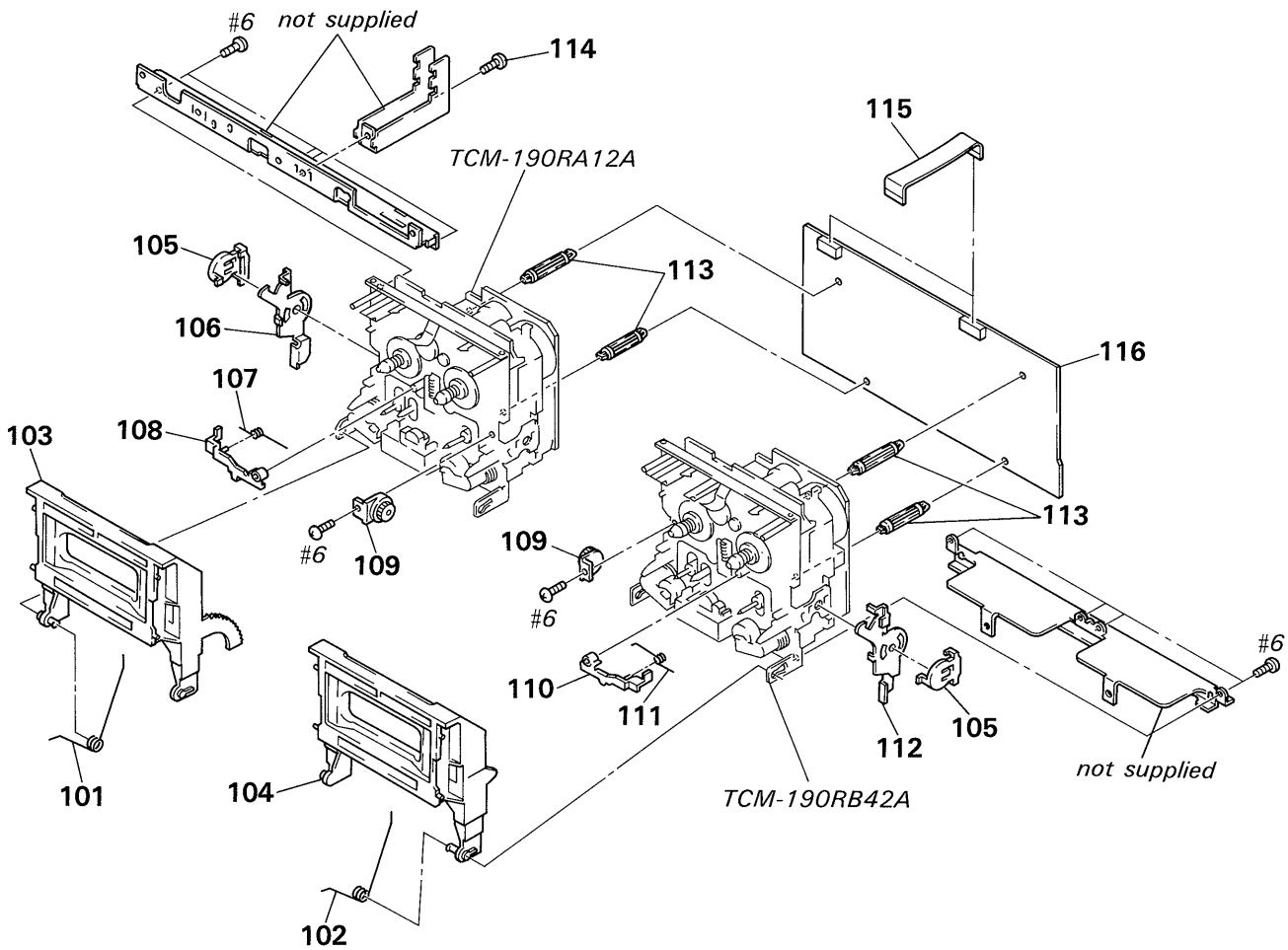
6-2. FRONT PANEL SECTION



Ref.No.	Part No.	Description	Remark
51	X-4943-960-1	LID (L) ASSY, CASSETTE	
52	X-4943-959-1	LID (R) ASSY, CASSETTE	
53	X-4943-919-1	PANEL ASSY, FRONT	
54	4-930-336-31	FOOT (FELT)	
55	4-959-221-01	LID (AZIMUTH R)	
56	4-960-310-01	KNOB (DBS)	
57	X-4942-957-1	KNOB (VOLUME) ASSY	
58	4-959-222-01	LID (AZIMUTH L)	
59	4-959-210-01	BUTTON (EJECT-L)	
60	4-959-288-01	BUTTON (EJECT-R)	
61	4-951-620-01	SCREW (2.6X8), +BVTP	

Ref.No.	Part No.	Description	Remark
*62	1-649-244-11	LED BOARD	
*63	A-4365-215-A	DBS BOARD, COMPLETE	
64	4-959-223-01	KNOB (TC)	
65	1-696-746-11	WIRE (FLAT TYPE) (15 CORE)	
*66	A-4365-220-A	TC SW BOARD, COMPLETE	
67	1-751-690-11	WIRE (FLAT TYPE) (21 CORE)	
68	A-4365-212-A	PANEL BOARD, COMPLETE	
*69	1-649-242-11	H.P BOARD	
*70	A-4365-213-A	SUB PANEL BOARD, COMPLETE	
71	1-590-577-11	WIRE, FLAT TYPE (17 CORE)	
72	1-751-687-11	WIRE (FLAT TYPE) (9 CORE)	

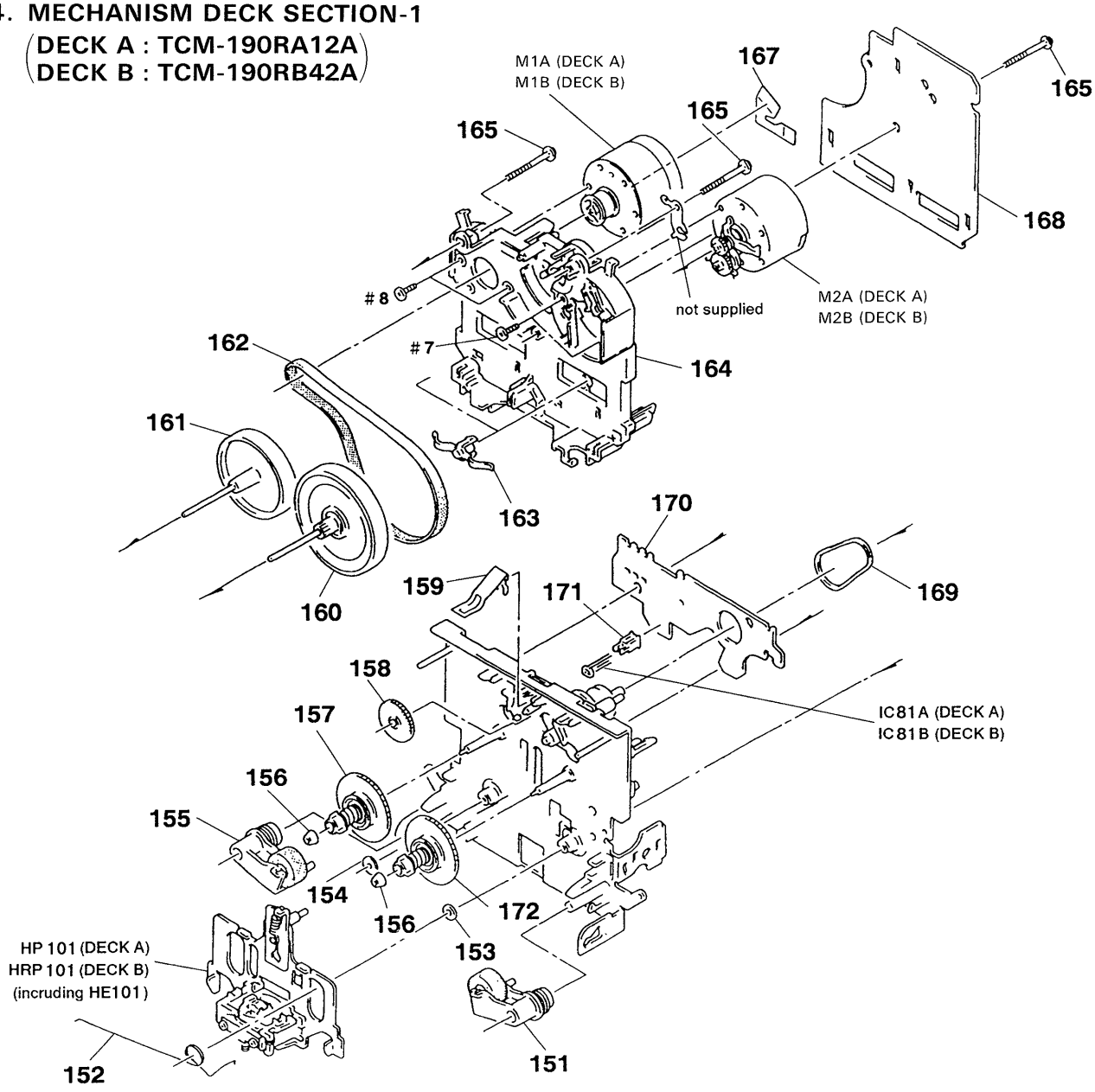
6-3. MECHANISM DECK CHASSIS SECTION



Ref.No.	Part No.	Description	Remark
101	4-959-231-01	SPRING (L), TORSION	
102	4-959-232-01	SPRING (R), TORSION	
103	X-4943-776-1	HOLDER (L) ASSY, CASSETTE	
104	X-4943-775-1	HOLDER (R) ASSY, CASSETTE	
105	3-354-957-01	JOINT (LOCK LEVER)	
*106	3-367-709-01	LEVER (LOCK LEVER L)	
107	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
108	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
109	3-354-963-01	DAMPER	
110	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
111	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
*112	3-367-710-01	LEVER (LOCK LEVER R)	
*113	3-682-419-21	HOLDER, P.C.B	
114	4-951-620-01	SCREW (2.6X8), +BVTP	
115	1-590-902-11	WIRE, FLAT TYPE (9 CORE)	
*116	A-4365-221-A	TC MAIN BOARD, COMPLETE	

6-4. MECHANISM DECK SECTION-1

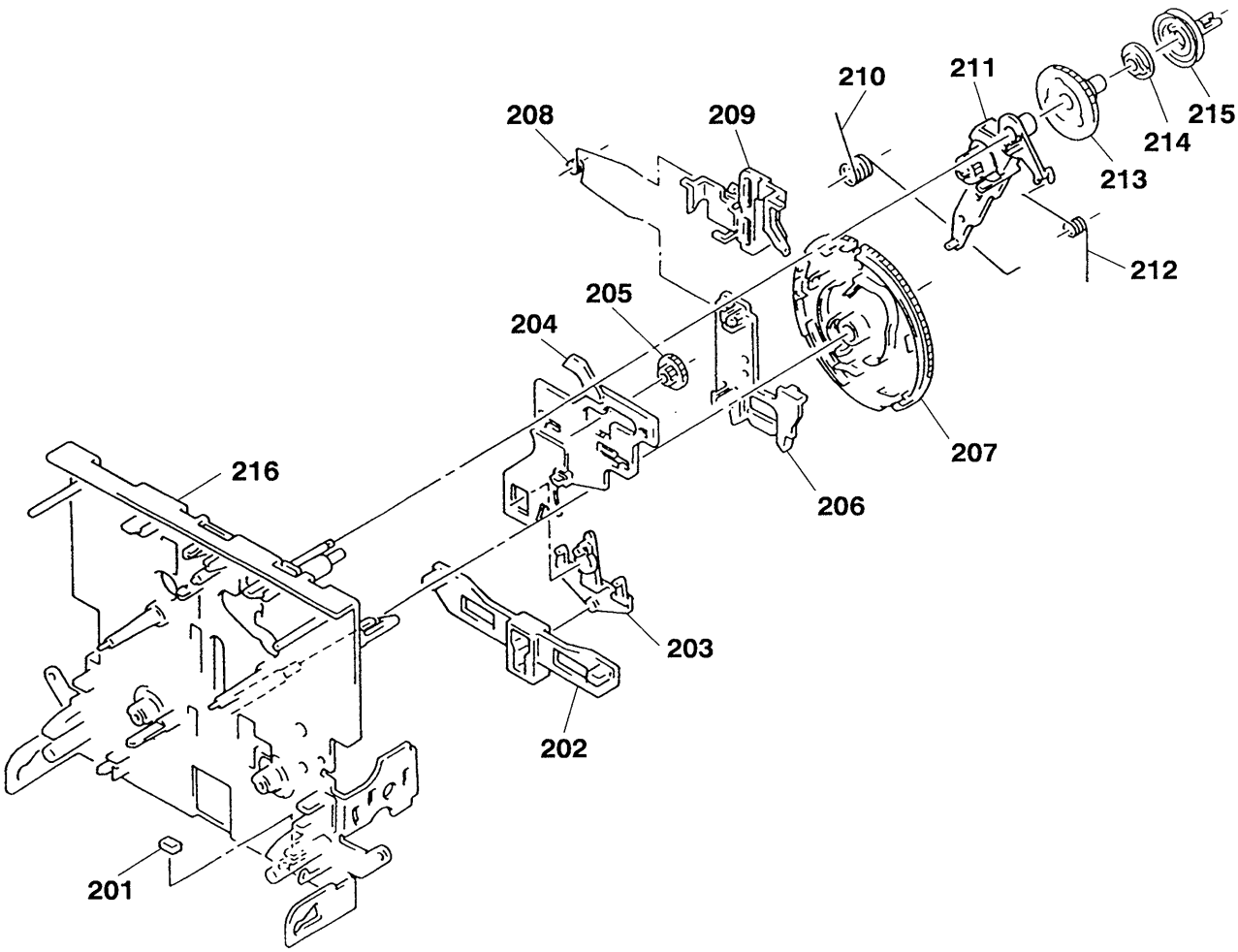
(DECK A : TCM-190RA12A)
(DECK B : TCM-190RB42A)



Ref.No.	Part No.	Description	Remark
151	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY	
152	3-359-455-01	SPRING, TORSION	
153	3-356-713-01	WASHER	
154	3-356-714-01	WASHER	
155	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY	
156	3-362-308-01	CAP (REEL)	
157	X-3362-078-1	TABLE ASSY (B), REEL	
158	3-359-424-01	GEAR (REV GEAR)	
159	3-359-430-01	SPRING(CASSETTE RETAINER),LEAF	
160	X-3359-406-1	FLYWHEEL (FWD) ASSY	
161	X-3359-410-1	FLYWHEEL (REV) ASSY	
162	3-359-417-01	BELT (FLAT), CAPSTAN	
163	3-575-321-00	RETAINER, THRUST, CAPSTAN	
*164	3-359-436-01	BASE (THRUST RETAINER),FITTING	
165	3-359-414-01	SCREW (+PTPWH 2X23)	
167	1-638-983-11	PC BOARD, MOTOR FLEXIBLE	

Ref.No.	Part No.	Description	Remark
*168	A-2006-399-A	MD (AX) BOARD, COMPLETE (DECK A)	
*168	A-2007-102-1	MD B (IC) BOARD, COMPLETE (DECK B)	
169	3-359-466-01	BELT (FR), SQUARE	
*170	1-634-841-14	LEAF SW (A) BOARD (DECK A)	
*170	1-634-841-14	LEAF SW (B) BOARD (DECK B)	
171	3-343-419-01	HOLDER (S SENSER A)	
172	X-3359-404-1	TABLE ASSY, REEL	
HP101	A-2003-837-F	BASE ASSY, HEAD (DECK A)	
HRP101	A-2003-838-F	DECK ASSY, HEAD (DECK B) (including HE101)	
IC81A	8-749-924-10	PHOTO REFLECTOR NJL5165K-B (H1) (DECK A)	
IC81B	8-749-924-10	PHOTO REFLECTOR NJL5165K-B (H1) (DECK B)	
M1A	X-3365-377-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M1B	X-3365-377-1	MOTOR ASSY (CAPSTAN) (DECK B)	
M2A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M2B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	

6-5. MECHANISM DECK SECTION-2
(DECK A : TCM-190RA12A)
(DECK B : TCM-190RB42A)



Ref.No.	Part No.	Description	Remark
201	3-359-469-01	SPACER	
*202	3-359-425-01	SLIDER (REVERSE SLIDER)	
203	3-359-426-01	LEVER (REVERSE LEVER)	
*204	3-359-415-01	SLIDER (TRIGGER SLIDER)	
205	3-359-448-01	GEAR (TRIGGER)	
*206	3-359-427-01	SLIDER (LEVERSE SLIDER)	
207	3-359-420-01	GEAR (CAM GEAR)	
208	3-359-454-01	SPRING, TORSION	

Ref.No.	Part No.	Description	Remark
209	3-359-429-01	SLIDER (BRAKE PLATE)	
210	3-359-456-01	SPRING(TRIGGER SPRING),TORSION	
211	X-3359-405-1	LEVER (FR ARM) ASSY	
212	3-359-453-01	SPRING (FR ARM), TORSION	
213	3-359-419-01	GEAR (FR GEAR)	
214	3-359-421-01	CLUTCH (REEL DISK)	
215	3-359-418-01	PULLEY (FR PULLEY)	
216	X-3363-790-1	CHASSIS ASSY, MECHANICAL	

SECTION 7
ELECTRICAL PARTS LIST

DBS

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example:
  uA··· : μA···, uPA··· : μPA···,
  uPB··· : μPB···, uPC··· : μPC···, uPD··· : μPD···
- CAPACITORS
  uF : μF
- COILS
  uH : μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les components identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièc portant le numéro spéccifié.

Ref.No.	Part No.	Description			Remark
*	A-4365-215-A	DBS BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C632	1-162-282-31	CERAMIC	100PF	10% 50V	
C633	1-162-282-31	CERAMIC	100PF	10% 50V	
C634	1-124-252-00	ELECT	0.33uF	20% 50V	
C635	1-136-165-00	FILM	0.1uF	5% 50V	
C636	1-126-160-11	ELECT	1uF	20% 50V	
C637	1-124-257-00	ELECT	2.2uF	20% 50V	
C638	1-124-229-00	ELECT	33uF	20% 10V	
C647	1-124-257-00	ELECT	2.2uF	20% 50V	
C682	1-162-282-31	CERAMIC	100PF	10% 50V	
C683	1-162-282-31	CERAMIC	100PF	10% 50V	
C684	1-124-252-00	ELECT	0.33uF	20% 50V	
C685	1-136-165-00	FILM	0.1uF	5% 50V	
C686	1-126-160-11	ELECT	1uF	20% 50V	
C687	1-124-257-00	ELECT	2.2uF	20% 50V	
C688	1-124-229-00	ELECT	33uF	20% 10V	
C1303	1-126-163-11	ELECT	4.7uF	20% 50V	
C1304	1-130-480-00	MYLAR	0.0056uF	5% 50V	
C1305	1-162-291-31	CERAMIC	560PF	10% 50V	
C1306	1-164-159-11	CERAMIC	0.1uF	50V	
C1307	1-124-229-00	ELECT	33uF	20% 10V	
C1308	1-164-159-11	CERAMIC	0.1uF	50V	
C1309	1-164-159-11	CERAMIC	0.1uF	50V	
C1310	1-164-159-11	CERAMIC	0.1uF	50V	
C1311	1-162-291-31	CERAMIC	560PF	10% 50V	
C1312	1-130-480-00	MYLAR	0.0056uF	5% 50V	
C1313	1-126-163-11	ELECT	4.7uF	20% 50V	
C1314	1-161-494-00	CERAMIC	0.022uF	25V	
C1315	1-164-159-11	CERAMIC	0.1uF	50V	
C1316	1-124-443-00	ELECT	100uF	20% 10V	
C1317	1-162-219-31	CERAMIC	68PF	5% 50V	
C1318	1-164-159-11	CERAMIC	0.1uF	50V	
C1319	1-162-282-31	CERAMIC	100PF	10% 50V	
C1321	1-124-229-00	ELECT	33uF	20% 10V	
C1322	1-124-229-00	ELECT	33uF	20% 10V	
C1323	1-124-229-00	ELECT	33uF	20% 10V	
C1324	1-124-229-00	ELECT	33uF	20% 10V	
C1325	1-161-379-00	CERAMIC	0.01uF	20% 25V	
C1326	1-161-379-00	CERAMIC	0.01uF	20% 25V	
C1327	1-164-159-11	CERAMIC	0.1uF	50V	
		< COIL >			
L1301	1-408-104-00	INDUCTOR	1mH		
		< CONNECTOR >			
*CN605	1-564-336-00	PIN, CONNECTOR 2P			
*CN606	1-568-852-11	SOCKET, CONNECTOR 9P			
		< IC >			
IC631	8-759-634-51	IC M5218AP			
IC1303	8-759-634-51	IC M5218AP			
IC1304	8-759-634-51	IC M5218AP			
IC1306	8-759-053-12	IC M65831P			
IC1307	8-759-000-48	IC MC14052BCP			
		< TRANSISTOR >			
Q631	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q641	8-729-141-30	TRANSISTOR	2SC3623A-LK		
Q681	8-729-620-05	TRANSISTOR	2SC2603-EF		
Q691	8-729-141-30	TRANSISTOR	2SC3623A-LK		
		< RESISTOR >			
R631	1-249-417-11	CARBON	1K	5% 1/4W	
R632	1-249-441-11	CARBON	100K	5% 1/4W	
R633	1-249-431-11	CARBON	15K	5% 1/4W	
R634	1-249-421-11	CARBON	2.2K	5% 1/4W	
R635	1-249-437-11	CARBON	47K	5% 1/4W	
R636	1-247-895-00	CARBON	470K	5% 1/4W	
R637	1-249-429-11	CARBON	10K	5% 1/4W	
R638	1-249-417-11	CARBON	1K	5% 1/4W	
R639	1-249-421-11	CARBON	2.2K	5% 1/4W	
R641	1-249-413-11	CARBON	470	5% 1/4W	
R642	1-249-433-11	CARBON	22K	5% 1/4W	
R643	1-249-433-11	CARBON	22K	5% 1/4W	
R644	1-249-441-11	CARBON	100K	5% 1/4W	
R647	1-249-417-11	CARBON	1K	5% 1/4W	
R681	1-249-417-11	CARBON	1K	5% 1/4W	

DBS H.P. LEAF SW (A) LEAF SW (B)

Ref.No.	Part No.	Description				Remark
R682	1-249-441-11	CARBON	100K	5%	1/4W	
R683	1-249-431-11	CARBON	15K	5%	1/4W	
R684	1-249-421-11	CARBON	2.2K	5%	1/4W	
R685	1-249-437-11	CARBON	47K	5%	1/4W	
R686	1-247-895-00	CARBON	470K	5%	1/4W	
R687	1-249-429-11	CARBON	10K	5%	1/4W	
R688	1-249-417-11	CARBON	1K	5%	1/4W	
R689	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1306	1-249-429-11	CARBON	10K	5%	1/4W	
R1308	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1309	1-249-429-11	CARBON	10K	5%	1/4W	
R1310	1-249-399-11	CARBON	33	5%	1/4W	
R1311	1-249-399-11	CARBON	33	5%	1/4W	
R1312	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1313	1-249-429-11	CARBON	10K	5%	1/4W	
R1314	1-249-429-11	CARBON	10K	5%	1/4W	
R1315	1-249-431-11	CARBON	15K	5%	1/4W	
R1316	1-249-431-11	CARBON	15K	5%	1/4W	
R1317	1-249-429-11	CARBON	10K	5%	1/4W	
R1318	1-249-431-11	CARBON	15K	5%	1/4W	
R1319	1-249-435-11	CARBON	33K	5%	1/4W	
R1321	1-249-417-11	CARBON	1K	5%	1/4W	
R1322	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1323	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1330	1-247-903-00	CARBON	1M	5%	1/4W	
R1334	1-249-429-11	CARBON	10K	5%	1/4W	
R1335	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1336	1-249-433-11	CARBON	22K	5%	1/4W	
R1337	1-249-433-11	CARBON	22K	5%	1/4W	
R1338	1-249-429-11	CARBON	10K	5%	1/4W	
R1339	1-249-419-11	CARBON	1.5K	5%	1/4W	
R1356	1-249-429-11	CARBON	10K	5%	1/4W	
R1358	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1359	1-249-429-11	CARBON	10K	5%	1/4W	
R1388	1-249-429-11	CARBON	10K	5%	1/4W	
R1389	1-249-423-11	CARBON	3.3K	5%	1/4W	
		< VARIABLE RESISTOR >				
RV631	1-223-490-11	RES, VAR, CARBON 50K/50K (DBS LEVEL)				
RV632	1-223-489-11	RES, VAR, CARBON 100K/100K (DBS FREQ)				
		< VIBRATOR >				
X1301	1-577-358-21	VIBRATOR, SERAMIC (2MHz)				
**********						
*	1-649-242-11	H.P. BOARD				
		**********				
		< CAPACITOR >				
C125	1-162-286-31	CERAMIC	220PF	10%	50V	
C175	1-162-286-31	CERAMIC	220PF	10%	50V	
		< CONNECTOR >				
*CN120	1-568-848-11	SOCKET, CONNECTOR 5P				
		< JACK >				
CNJ121	1-750-032-11	JACK (DIA. 3.5)(HEADPHONES)				
**********						
*	1-634-841-14	LEAF SW(A) BOARD				
		**********				
		< CONNECTOR >				
*CNP81	1-568-852-11	SOCKET, CONNECTOR 9P				
		< IC >				
IC81	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B(H1)				
		< RESISTOR >				
R84	1-249-417-11	CARBON	1K	5%	1/4W	
R85	1-249-408-11	CARBON	180	5%	1/4W	
		< SWITCH >				
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP DET)				
S82	1-571-281-21	SWITCH, LEAF (CrO_2 DET)				
S86	1-571-281-21	SWITCH, LEAF (HALF DET)				
**********						
*	1-634-841-14	LEAF SW(B) BOARD				
		**********				
		< CONNECTOR >				
*CNP81	1-568-852-11	SOCKET, CONNECTOR 9P				
		< IC >				
IC81	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B(H1)				
		< RESISTOR >				
R81	1-249-414-11	CARBON	560	5%	1/4W	
R82	1-247-834-11	CARBON	1.3K	5%	1/4W	
R83	1-247-818-11	CARBON	300	5%	1/4W	
R84	1-249-417-11	CARBON	1K	5%	1/4W	
R85	1-249-408-11	CARBON	180	5%	1/4W	
		< SWITCH >				
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP DET)				
S82	1-571-281-21	SWITCH, LEAF (CrO_2 DET)				
S83	1-571-281-21	SWITCH, LEAF (METAL DET)				

Ref.No.	Part No.	Description			Remark
S84	1-571-281-21	SWITCH, LEAF (ERASE PROOF DECK A)			
S85	1-571-281-21	SWITCH, LEAF (ERASE PROOF DECK B)			
S86	1-571-281-21	SWITCH, LEAF (HALF DET)			
**********					
*	A-4365-211-A	MAIN BOARD, COMPLETE			
		**********			
*	1-533-293-11	FUSE HOLDER			
*	3-309-144-21	HEAT SINK			
*	4-880-403-11	HEAT SINK			
	7-682-548-04	SCREW +BVTT 3X8 (S)			
		< CAPACITOR >			
C501	1-124-907-11	ELECT	10uF	20%	50V
C512	1-162-282-31	CERAMIC	100PF	10%	50V
C514	1-162-282-31	CERAMIC	100PF	10%	50V
C521	1-161-379-00	CERAMIC	0.01uF	20%	25V
C522	1-161-379-00	CERAMIC	0.01uF	20%	25V
C534	1-162-215-31	CERAMIC	47PF	5%	50V
C536	1-124-477-11	ELECT	47uF	20%	25V
C551	1-124-907-11	ELECT	10uF	20%	50V
C562	1-162-282-31	CERAMIC	100PF	10%	50V
C564	1-162-282-31	CERAMIC	100PF	10%	50V
C584	1-162-215-31	CERAMIC	47PF	5%	50V
C586	1-124-477-11	ELECT	47uF	20%	25V
C601	1-162-286-31	CERAMIC	220PF	10%	50V
C602	1-161-379-00	CERAMIC	0.01uF	20%	25V
C603	1-161-379-00	CERAMIC	0.01uF	20%	25V
C604	1-110-340-11	MYLAR	270PF	5%	50V
C605	1-130-479-00	MYLAR	0.0047uF	5%	50V
C606	1-130-469-00	MYLAR	680PF	5%	50V
C607	1-136-154-00	FILM	0.012uF	5%	50V
C608	1-130-474-00	MYLAR	0.0018uF	5%	50V
C609	1-136-159-00	FILM	0.033uF	5%	50V
C610	1-130-478-00	MYLAR	0.0039uF	5%	50V
C611	1-136-163-00	FILM	0.068uF	5%	50V
C612	1-136-153-00	FILM	0.01uF	5%	50V
C613	1-136-168-00	FILM	0.18uF	5%	50V
C614	1-136-158-00	FILM	0.027uF	5%	50V
C615	1-124-465-00	ELECT	0.47uF	20%	50V
C616	1-136-163-00	FILM	0.068uF	5%	50V
C617	1-126-301-11	ELECT	1uF	20%	50V
C618	1-162-286-31	CERAMIC	220PF	10%	50V
C620	1-124-907-11	ELECT	10uF	20%	50V
C621	1-124-477-11	ELECT	47uF	20%	25V
C622	1-124-477-11	ELECT	47uF	20%	25V
C623	1-161-379-00	CERAMIC	0.01uF	20%	25V
C624	1-161-379-00	CERAMIC	0.01uF	20%	25V

Ref.No.	Part No.	Description			Remark
C625	1-124-477-11	ELECT	47uF	20%	25V
C626	1-161-379-00	CERAMIC	0.01uF	20%	25V
C651	1-162-286-31	CERAMIC	220PF	10%	50V
C652	1-161-379-00	CERAMIC	0.01uF	20%	25V
C653	1-161-379-00	CERAMIC	0.01uF	20%	25V
C654	1-110-340-11	MYLAR	270PF	5%	50V
C655	1-130-479-00	MYLAR	0.0047uF	5%	50V
C656	1-130-469-00	MYLAR	680PF	5%	50V
C657	1-136-154-00	FILM	0.012uF	5%	50V
C658	1-130-474-00	MYLAR	0.0018uF	5%	50V
C659	1-136-159-00	FILM	0.033uF	5%	50V
C660	1-130-478-00	MYLAR	0.0039uF	5%	50V
C661	1-136-163-00	FILM	0.068uF	5%	50V
C662	1-136-153-00	FILM	0.01uF	5%	50V
C663	1-136-168-00	FILM	0.18uF	5%	50V
C664	1-136-158-00	FILM	0.027uF	5%	50V
C665	1-124-465-00	ELECT	0.47uF	20%	50V
C666	1-136-163-00	FILM	0.068uF	5%	50V
C667	1-126-301-11	ELECT	1uF	20%	50V
C668	1-162-286-31	CERAMIC	220PF	10%	50V
C670	1-124-907-11	ELECT	10uF	20%	50V
C901	1-136-153-00	FILM	0.01uF	5%	50V
C902	1-136-153-00	FILM	0.01uF	5%	50V
C903	1-126-936-11	ELECT	3300uF	20%	16V
C904	1-126-936-11	ELECT	3300uF	20%	16V
C905	1-124-907-11	ELECT	10uF	20%	50V
C906	1-124-907-11	ELECT	10uF	20%	50V
C907	1-124-907-11	ELECT	10uF	20%	50V
C908	1-126-925-11	ELECT	470uF	20%	10V
C909	1-126-925-11	ELECT	470uF	20%	10V
C910	1-124-477-11	ELECT	47uF	20%	25V
C911	1-124-907-11	ELECT	10uF	20%	50V
C913	1-124-907-11	ELECT	10uF	20%	50V
C914	1-124-907-11	ELECT	10uF	20%	50V
C915	1-124-907-11	ELECT	10uF	20%	50V
C916	1-126-927-11	ELECT	2200uF	20%	10V
C917	1-126-927-11	ELECT	2200uF	20%	10V
		< CONNECTOR >			
*CN501	1-750-923-11	HOUSING,CONNECTOR(PC BOARD) 15P			
CN601	1-691-767-11	PLUG (MICRO CONNECTOR) 5P			
*CN603	1-568-836-11	SOCKET, CONNECTOR 17P			
CN901	1-691-765-11	PLUG (MICRO CONNECTOR) 3P			
CN902	1-691-766-11	PLUG (MICRO CONNECTOR) 4P			
*CN903	1-568-834-11	SOCKET, CONNECTOR 15P			

MAIN

Ref.No.	Part No.	Description	Remark
		< DIODE >	
D521	8-719-987-63	DIODE 1N4148M	
D522	8-719-987-63	DIODE 1N4148M	
D621	8-719-010-39	DIODE UZ-5.1BSC	
D903	8-719-200-82	DIODE 11ES2	
D904	8-719-200-82	DIODE 11ES2	
D905	8-719-200-82	DIODE 11ES2	
D906	8-719-200-82	DIODE 11ES2	
		< PLATE, GROUND >	
*E901	4-942-204-01	PLATE, GROUND	
		< FUSE >	
⚠F901	1-532-776-21	FUSE, MICRO (SECONDARY) 1A/125V	
⚠F902	1-532-776-21	FUSE, MICRO (SECONDARY) 1A/125V	
⚠F951	1-532-741-11	FUSE, GLASS TUBE 1.25A/125V	
⚠F952	1-532-741-11	FUSE, GLASS TUBE 1.25A/125V	
		< IC >	
IC521	8-759-000-48	IC MC14052BCP	
IC531	8-759-634-51	IC M5218AP	
IC601	8-759-633-78	IC M5289P	
IC621	8-759-081-01	IC NJU7305L	
IC651	8-759-633-78	IC M5289P	
IC901	8-759-602-66	IC M5230L-A	
IC902	8-759-231-53	IC TA7805S	
IC903	8-759-605-00	IC M5F78M07L	
IC904	8-759-604-95	IC M5F79M07L	
		< JACK >	
J501	1-565-320-61	JACK, PIN 6P (VIDEO/PHONO, MD/DAT)	
		< TRANSISTOR >	
Q511	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q521	8-729-900-61	TRANSISTOR DTA114ES	
Q522	8-729-900-80	TRANSISTOR DTC114ES	
Q561	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q903	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q904	8-729-209-15	TRANSISTOR 2SD2012	
Q907	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q929	8-729-620-05	TRANSISTOR 2SC2603-EF	
		< RESISTOR >	
R501	1-249-417-11	CARBON 1K 5% 1/4W	
R502	1-249-437-11	CARBON 47K 5% 1/4W	
R511	1-249-417-11	CARBON 1K 5% 1/4W	
R512	1-249-441-11	CARBON 100K 5% 1/4W	
R513	1-249-421-11	CARBON 2.2K 5% 1/4W	
R514	1-249-421-11	CARBON 2.2K 5% 1/4W	
R515	1-249-425-11	CARBON 4.7K 5% 1/4W	
R516	1-249-427-11	CARBON 6.8K 5% 1/4W	
R517	1-249-417-11	CARBON 1K 5% 1/4W	
R521	1-249-429-11	CARBON 10K 5% 1/4W	
R522	1-249-429-11	CARBON 10K 5% 1/4W	
R523	1-249-433-11	CARBON 22K 5% 1/4W	
R524	1-249-433-11	CARBON 22K 5% 1/4W	
R534	1-249-437-11	CARBON 47K 5% 1/4W	
R535	1-249-437-11	CARBON 47K 5% 1/4W	
R551	1-249-417-11	CARBON 1K 5% 1/4W	
R552	1-249-437-11	CARBON 47K 5% 1/4W	
R561	1-249-417-11	CARBON 1K 5% 1/4W	
R562	1-249-441-11	CARBON 100K 5% 1/4W	
R563	1-249-421-11	CARBON 2.2K 5% 1/4W	
R564	1-249-421-11	CARBON 2.2K 5% 1/4W	
R565	1-249-425-11	CARBON 4.7K 5% 1/4W	
R566	1-249-427-11	CARBON 6.8K 5% 1/4W	
R567	1-249-417-11	CARBON 1K 5% 1/4W	
R584	1-249-437-11	CARBON 47K 5% 1/4W	
R585	1-249-437-11	CARBON 47K 5% 1/4W	
R601	1-249-425-11	CARBON 4.7K 5% 1/4W	
R603	1-249-425-11	CARBON 4.7K 5% 1/4W	
R604	1-247-903-00	CARBON 1M 5% 1/4W	
R605	1-247-903-00	CARBON 1M 5% 1/4W	
R606	1-247-903-00	CARBON 1M 5% 1/4W	
R607	1-247-903-00	CARBON 1M 5% 1/4W	
R608	1-247-903-00	CARBON 1M 5% 1/4W	
R609	1-247-903-00	CARBON 1M 5% 1/4W	
R610	1-247-903-00	CARBON 1M 5% 1/4W	
R612	1-249-441-11	CARBON 100K 5% 1/4W	
R620	1-247-807-31	CARBON 100 5% 1/4W	
R621	1-249-417-11	CARBON 1K 5% 1/4W	
R622	1-249-417-11	CARBON 1K 5% 1/4W	
R651	1-249-425-11	CARBON 4.7K 5% 1/4W	
R653	1-249-425-11	CARBON 4.7K 5% 1/4W	
R654	1-247-903-00	CARBON 1M 5% 1/4W	
R655	1-247-903-00	CARBON 1M 5% 1/4W	
R656	1-247-903-00	CARBON 1M 5% 1/4W	
R657	1-247-903-00	CARBON 1M 5% 1/4W	
R658	1-247-903-00	CARBON 1M 5% 1/4W	
R659	1-247-903-00	CARBON 1M 5% 1/4W	
R660	1-247-903-00	CARBON 1M 5% 1/4W	
R662	1-249-441-11	CARBON 100K 5% 1/4W	
R901	1-249-409-11	CARBON 220 5% 1/4W	
R903	1-247-903-00	CARBON 1M 5% 1/4W	
R904	1-249-414-11	CARBON 560 5% 1/4W	
R905	1-249-431-11	CARBON 15K 5% 1/4W	
R906	1-249-425-11	CARBON 4.7K 5% 1/4W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les components identifiés parune marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par unepièc portant le numéro spéccifié.

Ref.No.	Part No.	Description				Remark
R907	1-249-431-11	CARBON	15K	5%	1/4W	
R908	1-249-431-11	CARBON	15K	5%	1/4W	
R925	1-249-433-11	CARBON	22K	5%	1/4W	
R928	1-249-433-11	CARBON	22K	5%	1/4W	
R948	1-249-414-11	CARBON	560	5%	1/4W	

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* A-2006-399-A MD (AX) BOARD,COMPLETE
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< CAPACITOR >

C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-234-00	ELECT	22uF	20%	16V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C31	1-124-234-00	ELECT	22uF	20%	16V
C32	1-124-234-00	ELECT	22uF	20%	16V
C72	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V

< CONNECTOR >

*CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD
*CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD) 4P
*CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P
*CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P

< IC >

IC31	8-759-106-02	IC UPC4570G2

< JUMPER RESISTOR >

JW1	1-216-295-00	METAL CHIP	0	5%	1/10W
JW51	1-216-296-00	METAL CHIP	0	5%	1/8W
JW52	1-216-296-00	METAL CHIP	0	5%	1/8W
JW53	1-216-296-00	METAL CHIP	0	5%	1/8W
JW54	1-216-296-00	METAL CHIP	0	5%	1/8W

< TRANSISTOR >

Q71	8-729-602-36	TRANSISTOR 2SA1602

< RESISTOR >

R11	1-216-099-00	METAL CHIP	120K	5%	1/10W
R12	1-216-025-00	METAL CHIP	100	5%	1/10W
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W
R22	1-216-025-00	METAL CHIP	100	5%	1/10W
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R31	1-216-033-00	METAL CHIP	220	5%	1/10W
R32	1-216-033-00	METAL CHIP	220	5%	1/10W
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W
R73	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R74	1-216-089-91	METAL GLAZE	47K	5%	1/10W

< VARIABLE RESISTOR >

RV11	1-238-012-11	RES, ADJ, CARBON 1K
RV21	1-238-012-11	RES, ADJ, CARBON 1K
RV71	1-241-630-11	RES, ADJ, CARBON 10K
RV72	1-241-630-11	RES, ADJ, CARBON 10K

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* A-2007-102-A MD B (IC) BOARD,COMPLETE
****

< CAPACITOR >

C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C13	1-136-153-00	FILM	0.01uF	5%	50V
C14	1-126-177-11	ELECT	100uF	20%	6.3V
C15	1-124-234-00	ELECT	22uF	20%	16V
C16	1-136-273-91	FILM	75PF	5%	630V
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C23	1-136-153-00	FILM	0.01uF	5%	50V
C24	1-126-177-11	ELECT	100uF	20%	6.3V
C25	1-124-234-00	ELECT	22uF	20%	16V
C26	1-136-273-91	FILM	75PF	5%	630V
C27	1-164-080-11	CERAMIC	390PF	10%	50V
C28	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C31	1-124-234-00	ELECT	22uF	20%	16V
C32	1-124-234-00	ELECT	22uF	20%	16V
C33	1-124-234-00	ELECT	22uF	20%	16V
C51	1-163-019-00	CERAMIC CHIP	0.0063uF	10%	50V
C52	1-163-019-00	CERAMIC CHIP	0.0063uF	10%	50V
C53	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C54	1-136-559-11	FILM	1.0047uF	5%	630V
C56	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C57	1-164-346-11	CERAMIC CHIP	1uF		16V
C58	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C72	1-124-499-11	ELECT	1uF	20%	16V

MD B (IC) LED PANEL

Ref.No.	Part No.	Description				Remark
		< CONNECTOR >				
*CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD				
*CNJ33	1-580-782-11	CONNECTOR, BOARD TO BOARD				
*CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P				
*CNP32	1-580-781-11	PIN, CONNECTOR (PCBOARD) 7P				
*CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P				
		< IC >				
IC31	8-759-154-34	IC UPC1330GR				
IC32	8-759-106-02	IC UPC4570G2-E1				
		< JUMPER RESISTOR >				
JW1	1-216-295-00	METAL CHIP	0	5%	1/10W	
JW2	1-216-295-00	METAL CHIP	0	5%	1/10W	
JW11	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW12	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW13	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW14	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW15	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW16	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW17	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW18	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW19	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW20	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW21	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW22	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW23	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW24	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW25	1-216-296-00	METAL CHIP	0	5%	1/8W	
		< COIL >				
L11	1-410-780-11	INDUCTOR	27mH			
L21	1-410-780-11	INDUCTOR	27mH			
		< TRANSISTOR >				
Q51	8-729-808-01	TRANSISTOR	2SD1622			
Q52	8-729-808-01	TRANSISTOR	2SD1622			
Q53	8-729-808-01	TRANSISTOR	2SD1622			
Q71	8-729-602-36	TRANSISTOR	2SA1602			
		< RESISTOR >				
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R12	1-216-033-00	METAL CHIP	220	5%	1/10W	
R13	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R14	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R15	1-216-107-00	METAL GLAZE	270K	5%	1/10W	
R16	1-249-430-11	CARBON	12K	5%	1/4W	
R17	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R18	1-216-033-00	METAL CHIP	220	5%	1/10W	
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R22	1-216-025-00	METAL CHIP	100	5%	1/10W	
R23	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R24	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R25	1-216-107-00	METAL GLAZE	270K	5%	1/10W	
R26	1-249-430-11	CARBON	12K	5%	1/4W	
R31	1-216-033-00	METAL CHIP	220	5%	1/10W	
R32	1-216-033-00	METAL CHIP	220	5%	1/10W	
R33	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R41	1-249-393-11	CARBON	10	5%	1/4W	
R42	1-249-393-11	CARBON	10	5%	1/4W	
R51	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R52	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R53	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R54	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R55	1-216-309-00	METAL GLAZE	5.6	5%	1/10W	
R56	1-216-298-00	METAL GLAZE	2.2	5%	1/10W	
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R72	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R73	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R74	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
		< VARIABLE RESISTOR >				
RV11	1-238-012-11	RES, ADJ, CARBON 1K				
RV12	1-238-551-11	RES, ADJ, CARBON 220K				
RV21	1-238-012-11	RES, ADJ, CARBON 1K				
RV22	1-238-551-11	RES, ADJ, CARBON 220K				
RV71	1-241-630-11	RES, ADJ, CARBON 10K				
RV72	1-241-630-11	RES, ADJ, CARBON 10K				
		< COIL >				
T51	1-406-419-11	COIL, BIAS OSCILATION				
**********						
*	1-649-244-11	LED BOARD				
		*********				
		< DIODE >				
D601	8-719-301-49	LED SEL2810A (DBS)				
**********						
	A-4365-212-A	PANEL BOARD, COMPLETE				
		**********				
*	4-496-311-01	HOLDER, FL TUBE				
		< CAPACITOR >				
C811	1-136-165-00	FILM	0.1uF	5%	50V	

Ref.No.	Part No.	Description			Remark
C813	1-126-157-11	ELECT	10uF	20% 16V	
C814	1-136-173-00	FILM	0.47uF	5% 50V	
C815	1-164-159-11	CERAMIC	0.1uF	50V	
C816	1-161-379-00	CERAMIC	0.01uF	20% 25V	
C817	1-124-907-11	ELECT	10uF	20% 50V	
C818	1-164-159-11	CERAMIC	0.1uF	50V	
C819	1-164-159-11	CERAMIC	0.1uF	50V	
		< CONNECTOR >			
*CN804	1-568-864-11	SOCKET, CONNECTOR 21P			
		< DIODE >			
D813	8-719-987-63	DIODE 1N4148M			
D851	8-719-987-63	DIODE 1N4148M			
D891	8-719-301-37	LED SEL2210S-CD (ON/STANDBY)			
D892	8-719-301-37	LED SEL2210S-CD (VIDEO)			
D893	8-719-301-37	LED SEL2210S-CD (TAPE)			
D894	8-719-301-37	LED SEL2210S-CD (DAT/MD)			
D895	8-719-301-37	LED SEL2210S-CD (CD)			
D896	8-719-301-37	LED SEL2210S-CD (TUNER)			
		< FLUORESCENT INDICATOR TUBE >			
FL801	1-517-216-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC811	8-759-605-16	IC M51953BL			
IC821	8-759-184-20	IC TMP87CC78F-6104			
		< TRANSISTOR >			
Q811	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q851	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q891	8-729-900-80	TRANSISTOR DTC114ES			
Q892	8-729-900-80	TRANSISTOR DTC114ES			
Q893	8-729-900-80	TRANSISTOR DTC114ES			
Q894	8-729-900-80	TRANSISTOR DTC114ES			
Q895	8-729-900-80	TRANSISTOR DTC114ES			
Q896	8-729-900-80	TRANSISTOR DTC114ES			
		< RESISTOR >			
R811	1-249-429-11	CARBON	10K	5% 1/4W	
R812	1-249-433-11	CARBON	22K	5% 1/4W	
R813	1-249-433-11	CARBON	22K	5% 1/4W	
R831	1-249-429-11	CARBON	10K	5% 1/4W	
R834	1-249-429-11	CARBON	10K	5% 1/4W	
R835	1-249-429-11	CARBON	10K	5% 1/4W	
R837	1-249-429-11	CARBON	10K	5% 1/4W	
R838	1-249-429-11	CARBON	10K	5% 1/4W	
R841	1-247-903-00	CARBON	1M	5% 1/4W	

Ref.No.	Part No.	Description			Remark
R847	1-249-429-11	CARBON	10K	5% 1/4W	
R848	1-249-429-11	CARBON	10K	5% 1/4W	
R855	1-249-429-11	CARBON	10K	5% 1/4W	
R856	1-249-429-11	CARBON	10K	5% 1/4W	
R857	1-249-429-11	CARBON	10K	5% 1/4W	
R858	1-249-393-11	CARBON	10	5% 1/4W	
R861	1-249-423-11	CARBON	3.3K	5% 1/4W	
R862	1-249-413-11	CARBON	470	5% 1/4W	
R863	1-249-415-11	CARBON	680	5% 1/4W	
R864	1-249-417-11	CARBON	1K	5% 1/4W	
R865	1-249-419-11	CARBON	1.5K	5% 1/4W	
R866	1-249-421-11	CARBON	2.2K	5% 1/4W	
R867	1-249-425-11	CARBON	4.7K	5% 1/4W	
R871	1-249-423-11	CARBON	3.3K	5% 1/4W	
R872	1-249-413-11	CARBON	470	5% 1/4W	
R873	1-249-415-11	CARBON	680	5% 1/4W	
R874	1-249-417-11	CARBON	1K	5% 1/4W	
R875	1-249-419-11	CARBON	1.5K	5% 1/4W	
R876	1-249-421-11	CARBON	2.2K	5% 1/4W	
R877	1-249-425-11	CARBON	4.7K	5% 1/4W	
R878	1-249-430-11	CARBON	12K	5% 1/4W	
R891	1-249-411-11	CARBON	330	5% 1/4W	
		< SWITCH >			
S861	1-572-184-11	SWITCH, KEYBOARD (ON/STANBY)			
S862	1-572-184-11	SWITCH, KEYBOARD (DISPLAY)			
S863	1-572-184-11	SWITCH, KEYBOARD (TAPE)			
S864	1-572-184-11	SWITCH, KEYBOARD (MD/DAT)			
S865	1-572-184-11	SWITCH, KEYBOARD (CD)			
S866	1-572-184-11	SWITCH, KEYBOARD (TUNER)			
S867	1-572-184-11	SWITCH, KEYBOARD (PHONO)			
S871	1-572-184-11	SWITCH, KEYBOARD (EFFECT)			
S872	1-572-184-11	SWITCH, KEYBOARD (KARAOKE)			
S873	1-572-184-11	SWITCH, KEYBOARD (P.FILE)			
S874	1-572-184-11	SWITCH, KEYBOARD (PRESET)			
S875	1-572-184-11	SWITCH, KEYBOARD (▼)			
S876	1-572-184-11	SWITCH, KEYBOARD (▶)			
S877	1-572-184-11	SWITCH, KEYBOARD (▲)			
S878	1-572-184-11	SWITCH, KEYBOARD (◀)			
		< VIBRATOR >			
X821	1-579-599-21	VIBRATOR, CERAMIC (8.38MHZ)			

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*	A-4365-219-A	POWER BOARD, COMPLETE
		**********
		< CAPACITOR >
C101	1-104-694-91	CAP, METALIZED FILM

POWER

Ref.No.	Part No.	Description				Remark
C102	1-104-694-91	CAP, METALIZED FILM				
C103	1-104-482-11	ELECT	4700uF	20%	63V	
C104	1-104-482-11	ELECT	4700uF	20%	63V	
C105	1-124-791-11	ELECT	1.0uF	20%	100V	
C106	1-128-553-91	ELECT	220uF	20%	63V	
C107	1-136-153-00	FILM	0.01uF	5%	50V	
C108	1-136-153-00	FILM	0.01uF	5%	50V	
C111	1-124-122-11	ELECT	100uF	20%	50V	
C112	1-124-907-11	ELECT	10uF	20%	50V	
C113	1-124-910-11	ELECT	47uF	20%	50V	
C114	1-164-159-11	CERAMIC	0.1uF		50V	
C141	1-126-176-11	ELECT	220uF	20%	10V	
C142	1-126-176-11	ELECT	220uF	20%	10V	
C143	1-124-443-00	ELECT	100uF	20%	10V	
C181	1-124-477-11	ELECT	47uF	20%	25V	
C182	1-124-927-11	ELECT	4.7uF	20%	100V	
C183	1-124-477-11	ELECT	47uF	20%	25V	
C184	1-136-169-00	FILM	0.22uF	5%	50V	
C185	1-136-169-00	FILM	0.22uF	5%	50V	
C186	1-124-903-11	ELECT	1uF	20%	50V	
C187	1-124-907-11	ELECT	10uF	20%	50V	
C188	1-161-379-00	CERAMIC	0.01uF	20%	25V	
		< CONNECTOR >				
*CN102	1-564-321-00	PIN, CONNECTOR 2P				
*CN103	1-564-338-00	PIN, CONNECTOR 4P				
CN104	1-691-769-21	PLUG (MICRO CONNECTOR) 7P				
*CN105	1-568-848-11	SOCKET, CONNECTOR 5P				
*CN106	1-564-337-00	PIN, CONNECTOR 3P				
CN107	1-691-766-11	PLUG (MICRO CONNECTOR) 4P				
*CN108	1-564-506-11	PLUG, CONNECTOR 3P				
CN109	1-691-769-11	PLUG (MICRO CONNECTOR) 7P				
		< CONNECTOR >				
⚠CNP101	1-526-930-11	INLET, AC				
		< DIODE >				
D101	8-719-987-63	DIODE	1N4148M			
D102	8-719-815-85	DIODE	1S1585			
D103	8-719-815-85	DIODE	1S1585			
D104	8-719-510-68	DIODE	D5SBA20F01			
D105	8-719-987-63	DIODE	1N4148M			
D106	8-719-987-63	DIODE	1N4148M			
D107	8-719-200-82	DIODE	11ES2			
D108	8-719-200-82	DIODE	11ES2			
D111	8-719-200-82	DIODE	11ES2			
D112	8-719-934-22	HZS30-2L				
D113	8-719-014-80	DIODE	UZP-6.2BC			
D121	8-719-815-85	DIODE	1S1585			
D141	8-719-987-63	DIODE	1N4148M			
D142	8-719-987-63	DIODE	1N4148M			

Ref.No.	Part No.	Description				Remark
D171	8-719-815-85	DIODE	1S1585			
D181	8-719-933-67	DIODE	HZS11B2L			
D182	8-719-987-63	DIODE	1N4148M			
D183	8-719-987-63	DIODE	1N4148M			
D184	8-719-200-82	DIODE	11ES2			
D185	8-719-200-82	DIODE	11ES2			
D186	8-719-200-82	DIODE	11ES2			
		< PLATE, GROUND >				
*E101	4-942-204-01	PLATE, GROUND				
		< FUSE >				
F101	1-532-747-11	FUSE, GLASS TUBE (5A/125V)				
		< IC >				
IC141	8-759-111-68	IC	UPC1237HA			
IC181	8-759-103-93	IC	UPC393C			
		< JACK >				
J101	1-537-151-11	TERMINAL BOARD (SPEAKER)				
		< TRANSISTOR >				
Q101	8-729-255-12	TRANSISTOR	2SC2551-O			
Q102	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q111	8-729-141-83	TRANSISTOR	2SB1094-LK			
Q141	8-729-900-63	TRANSISTOR	DTA124ES			
Q181	8-729-118-01	TRANSISTOR	2SB1116-K			
Q182	8-729-118-01	TRANSISTOR	2SB1116-K			
		< RESISTOR >				
R101	1-249-433-11	CARBON	22K	5%	1/4W	
R102	1-249-433-11	CARBON	22K	5%	1/4W	
R103	1-249-433-11	CARBON	22K	5%	1/4W	
R104	1-249-433-11	CARBON	22K	5%	1/4W	
⚠R105	1-215-917-11	METAL OXIDE	1K	5%	3W	F
R106	1-215-916-00	METAL OXIDE	680	5%	3W	
⚠R107	1-219-136-11	FUSIBLE	0.22	5%	1/4W	F
⚠R108	1-219-136-11	FUSIBLE	0.22	5%	1/4W	F
R112	1-249-421-11	CARBON	2.2K	5%	1/4W	
R113	1-249-413-11	CARBON	470	5%	1/4W	
R114	1-249-413-11	CARBON	470	5%	1/4W	
R115	1-249-425-11	CARBON	4.7K	5%	1/4W	
R121	1-249-417-11	CARBON	1K	5%	1/4W	
R122	1-249-417-11	CARBON	1K	5%	1/4W	
R123	1-249-438-11	CARBON	56K	5%	1/4W	
R124	1-249-435-11	CARBON	33K	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les components identifiés parune marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par unepièc portant le numéro spéccifié.

Ref.No.	Part No.	Description				Remark
R141	1-249-421-11	CARBON	2.2K	5%	1/4W	
R142	1-249-441-11	CARBON	100K	5%	1/4W	
R143	1-249-429-11	CARBON	10K	5%	1/4W	
R144	1-249-441-11	CARBON	100K	5%	1/4W	
R145	1-249-438-11	CARBON	56K	5%	1/4W	
R146	1-249-434-11	CARBON	27K	5%	1/4W	
R147	1-249-434-11	CARBON	27K	5%	1/4W	
R171	1-249-417-11	CARBON	1K	5%	1/4W	
R172	1-249-417-11	CARBON	1K	5%	1/4W	
R173	1-249-437-11	CARBON	47K	5%	1/4W	
R174	1-249-435-11	CARBON	33K	5%	1/4W	
R181	1-249-441-11	CARBON	100K	5%	1/4W	
R182	1-249-429-11	CARBON	10K	5%	1/4W	
R183	1-249-425-11	CARBON	4.7K	5%	1/4W	
R184	1-249-416-11	CARBON	820	5%	1/4W	
R185	1-249-426-11	CARBON	5.6K	5%	1/4W	
R186	1-249-426-11	CARBON	5.6K	5%	1/4W	
R187	1-249-441-11	CARBON	100K	5%	1/4W	
R188	1-249-426-11	CARBON	5.6K	5%	1/4W	
R189	1-249-441-11	CARBON	100K	5%	1/4W	
R191	1-202-725-00	SOLID	3.3M	10%	1/2W	
R192	1-247-752-11	CARBON	1K	5%	1/2W	
		< RELAY >				
RY101	1-515-738-11	RELAY, POWER				
RY102	1-515-738-11	RELAY, POWER				
RY103	1-515-501-00	RELAY				

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*	A-4365-222-A	POWER AMPLIFIER BOARD, COMPLETE				
		**********				
		< CAPACITOR >				
C701	1-124-925-11	ELECT	2.2uF	20%	100V	
C702	1-162-286-31	CERAMIC	220PF	10%	50V	
C703	1-162-282-31	CERAMIC	100PF	10%	50V	
C704	1-124-477-11	ELECT	47uF	20%	25V	
C705	1-124-910-11	ELECT	47uF	20%	50V	
C706	1-124-572-11	ELECT	100uF	20%	63V	
C707	1-124-927-11	ELECT	4.7uF	20%	100V	
C708	1-124-916-11	ELECT	22uF	20%	63V	
C709	1-136-165-00	FILM	0.1uF	5%	50V	
C710	1-136-163-00	FILM	0.068uF	5%	50V	
C711	1-136-163-00	FILM	0.068uF	5%	50V	
C735	1-124-910-11	ELECT	47uF	20%	50V	
C744	1-164-159-11	CERAMIC	0.1uF		50V	
C751	1-124-925-11	ELECT	2.2uF	20%	100V	
C752	1-162-286-31	CERAMIC	220PF	10%	50V	
C753	1-162-282-31	CERAMIC	100PF	10%	50V	

Ref.No.	Part No.	Description				Remark
C754	1-124-477-11	ELECT	47uF	20%	25V	
C755	1-124-910-11	ELECT	47uF	20%	50V	
C756	1-124-572-11	ELECT	100uF	20%	63V	
C757	1-124-927-11	ELECT	4.7uF	20%	100V	
C760	1-136-163-00	FILM	0.068uF	5%	50V	
C761	1-136-163-00	FILM	0.068uF	5%	50V	
		< DIODE >				
D701	8-719-815-85	DIODE 1S1585				
D751	8-719-815-85	DIODE 1S1585				
		< IC >				
IC701	8-749-921-68	IC STK4231MK2				
IC703	8-759-947-34	IC LM35DZ				
		< TRANSISTOR >				
Q701	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA				
Q732	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q733	8-729-900-80	TRANSISTOR DTC114ES				
Q751	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA				
		< COIL >				
L701	1-420-872-00	COIL, AIR CORE				
L751	1-420-872-00	COIL, AIR CORE				
		< RESISTOR >				
R701	1-249-417-11	CARBON	1K	5%	1/4W	
R702	1-249-438-11	CARBON	56K	5%	1/4W	
R703	1-249-417-11	CARBON	1K	5%	1/4W	
R704	1-249-438-11	CARBON	56K	5%	1/4W	
R705	1-249-429-11	CARBON	10K	5%	1/4W	
R706	1-249-429-11	CARBON	10K	5%	1/4W	
R707	1-249-429-11	CARBON	10K	5%	1/4W	
R708	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R709	1-212-881-11	FUSIBLE	100	5%	1/4W	F
⚠R710	1-217-156-00	RES, METAL PLATE			0.22	F
R711	1-249-417-11	CARBON	1K	5%	1/4W	
R712	1-249-431-11	CARBON	15K	5%	1/4W	
R713	1-249-441-11	CARBON	100K	5%	1/4W	
R714	1-249-421-11	CARBON	2.2K	5%	1/4W	
R715	1-249-421-11	CARBON	2.2K	5%	1/4W	
R716	1-249-421-11	CARBON	2.2K	5%	1/4W	
R717	1-249-421-11	CARBON	2.2K	5%	1/4W	
R718	1-249-397-11	CARBON	22	5%	1/4W	
R719	1-249-397-11	CARBON	22	5%	1/4W	
R720	1-249-397-11	CARBON	22	5%	1/4W	
R721	1-249-397-11	CARBON	22	5%	1/4W	
R722	1-249-429-11	CARBON	10K	5%	1/4W	

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POWER AMPLIFIER | SUB PANEL | TC MAIN

Ref.No.	Part No.	Description				Remark
R723	1-247-881-00	CARBON	120K	5%	1/4W	
R724	1-249-437-11	CARBON	47K	5%	1/4W	
R732	1-249-426-11	CARBON	5.6K	5%	1/4W	
R733	1-249-433-11	CARBON	22K	5%	1/4W	
R734	1-249-437-11	CARBON	47K	5%	1/4W	
R735	1-249-439-11	CARBON	68K	5%	1/4W	
R736	1-249-417-11	CARBON	1K	5%	1/4W	
R751	1-249-417-11	CARBON	1K	5%	1/4W	
R752	1-249-438-11	CARBON	56K	5%	1/4W	
R753	1-249-417-11	CARBON	1K	5%	1/4W	
R754	1-249-438-11	CARBON	56K	5%	1/4W	
R755	1-249-429-11	CARBON	10K	5%	1/4W	
R756	1-249-429-11	CARBON	10K	5%	1/4W	
R757	1-249-429-11	CARBON	10K	5%	1/4W	
R758	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R759	1-212-881-11	FUSIBLE	100	5%	1/4W	F
⚠R760	1-217-156-00	RES, METAL PLATE			0.22	F
R761	1-249-417-11	CARBON	1K	5%	1/4W	
R762	1-249-431-11	CARBON	15K	5%	1/4W	
R763	1-249-441-11	CARBON	100K	5%	1/4W	
R768	1-249-397-11	CARBON	22	5%	1/4W	
R769	1-249-397-11	CARBON	22	5%	1/4W	
R770	1-249-397-11	CARBON	22	5%	1/4W	
R771	1-249-397-11	CARBON	22	5%	1/4W	

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* A-4365-213-A SUB PANEL BOARD, COMPLETE
****

< CAPACITOR >

C641	1-161-379-00	CERAMIC	0.01uF	20%	25V
C642	1-124-907-11	ELECT	10uF	20%	50V
C801	1-161-379-00	CERAMIC	0.01uF	20%	25V
C802	1-161-379-00	CERAMIC	0.01uF	20%	25V
C803	1-124-907-11	ELECT	10uF	20%	50V
C804	1-162-294-31	CERAMIC	0.001uF	10%	50V
C805	1-124-907-11	ELECT	10uF	20%	50V
C806	1-161-379-00	CERAMIC	0.01uF	20%	25V
C807	1-124-907-11	ELECT	10uF	20%	50V
C808	1-124-907-11	ELECT	10uF	20%	50V

< CONNECTOR >

*CN607	1-568-852-11	SOCKET, CONNECTOR 9P
CN609	1-691-765-11	PLUG (MICRO CONNECTOR) 3P
*CN802	1-568-836-11	SOCKET, CONNECTOR 17P
CN803	1-568-838-11	SOCKET, CONNECTOR 21P

< DIODE >

D641	8-719-200-82	DIODE 11ES2
D801	8-719-010-39	DIODE UZ-5.1BSC
D802	8-719-010-39	DIODE UZ-5.1BSC

< IC >

IC641	8-759-184-40	IC LB1638
IC801	8-759-991-11	IC XR1091DCP
IC802	8-759-000-48	IC MC14052BCP

< TRANSISTOR >

Q643	8-729-119-76	TRANSISTOR	2SA1175-HFE
Q821	8-729-620-05	TRANSISTOR	2SC2603-EF
Q822	8-729-620-05	TRANSISTOR	2SC2603-EF
Q823	8-729-620-05	TRANSISTOR	2SC2603-EF
Q824	8-729-620-05	TRANSISTOR	2SC2603-EF
Q825	8-729-620-05	TRANSISTOR	2SC2603-EF

< RESISTOR >

R645	1-249-429-11	CARBON	10K	5%	1/4W
R646	1-249-429-11	CARBON	10K	5%	1/4W
R648	1-249-411-11	CARBON	330	5%	1/4W
R801	1-247-807-31	CARBON	100	5%	1/4W
R802	1-247-807-31	CARBON	100	5%	1/4W
R803	1-249-429-11	CARBON	10K	5%	1/4W
R804	1-249-429-11	CARBON	10K	5%	1/4W
R805	1-249-419-11	CARBON	1.5K	5%	1/4W
R806	1-249-429-11	CARBON	10K	5%	1/4W
R807	1-249-435-11	CARBON	33K	5%	1/4W
R808	1-249-435-11	CARBON	33K	5%	1/4W
R809	1-249-429-11	CARBON	10K	5%	1/4W
R821	1-249-429-11	CARBON	10K	5%	1/4W
R822	1-249-429-11	CARBON	10K	5%	1/4W
R823	1-249-429-11	CARBON	10K	5%	1/4W
R824	1-249-429-11	CARBON	10K	5%	1/4W
R825	1-249-429-11	CARBON	10K	5%	1/4W
R830	1-249-429-11	CARBON	10K	5%	1/4W

< VARIABLE RESISTOR >

RV601	1-223-487-11	RES, VAR, CARBON 100K/100K (VOLUME)

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* A-4365-221-A TC MAIN BOARD, COMPLETE
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1-696-746-11 WIRE (FLAT TYPE) (15 CORE)

< CAPACITOR >

C105	1-106-351-00	MYLAR	2200PF	5%	200V
C106	1-106-351-00	MYLAR	2200PF	5%	200V
C107	1-136-174-00	FILM	0.56uF	5%	50V

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Ref.No.	Part No.	Description				Remark
C108	1-136-171-00	FILM	0.33uF	5%	50V	
C201	1-136-158-00	FILM	0.027uF	5%	50V	
C202	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C204	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C205	1-124-925-11	ELECT	2.2uF	20%	100V	
C206	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C207	1-126-157-11	ELECT	10uF	20%	16V	
C208	1-164-005-11	CERAMIC CHIP	0.47uF		25V	
C209	1-124-925-11	ELECT	2.2uF	20%	100V	
C210	1-124-925-11	ELECT	2.2uF	20%	100V	
C215	1-106-351-00	MYLAR	2200PF	5%	200V	
C216	1-106-351-00	MYLAR	2200PF	5%	200V	
C217	1-136-174-00	FILM	0.56uF	5%	50V	
C218	1-136-171-00	FILM	0.33uF	5%	50V	
C301	1-136-158-00	FILM	0.027uF	5%	50V	
C302	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C304	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C305	1-124-925-11	ELECT	2.2uF	20%	100V	
C306	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C307	1-126-157-11	ELECT	10uF	20%	16V	
C308	1-164-005-11	CERAMIC CHIP	0.47uF		25V	
C309	1-124-925-11	ELECT	2.2uF	20%	100V	
C401	1-124-584-00	ELECT	100uF	20%	10V	
C402	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C403	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C404	1-124-584-00	ELECT	100uF	20%	10V	
C405	1-124-584-00	ELECT	100uF	20%	10V	
C407	1-124-925-11	ELECT	2.2uF	20%	100V	
C408	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C409	1-164-222-11	CERAMIC CHIP	0.22uF		25V	
C410	1-124-925-11	ELECT	2.2uF	20%	100V	
C411	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	
C415	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C416	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C417	1-124-907-11	ELECT	10uF	20%	50V	
C419	1-124-473-11	ELECT	1000uF	20%	10V	
C420	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C421	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C422	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C424	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C425	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C426	1-124-478-11	ELECT	100uF	20%	25V	
C427	1-124-478-11	ELECT	100uF	20%	25V	
C428	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	
C501	1-124-584-00	ELECT	100uF	20%	10V	
C502	1-124-584-00	ELECT	100uF	20%	10V	
C4001	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C4002	1-164-232-11	CERAMIC CHIP	0.01uF		50V	

Ref.No.	Part No.	Description				Remark
C6500	1-124-261-00	ELECT	10uF	20%	50V	
		< CONNECTOR >				
CN601	1-573-101-11	SOCKET, CONNECTOR 9P				
CN602	1-580-783-11	CONNECTOR, BOARD TO BOARD				
CN603	1-573-101-11	SOCKET, CONNECTOR 9P				
CN604	1-580-783-11	CONNECTOR, BOARD TO BOARD				
*CN605	1-580-417-11	SOCKET, CONNECTOR 15P				
CN607	1-580-783-11	CONNECTOR, BOARD TO BOARD				
*CN609	1-568-858-11	SOCKET, CONNECTOR 15P				
		< DIODE >				
D404	8-719-021-41	DIODE	UZM5.6X			
D407	8-719-801-78	DIODE	1SS184			
D408	8-719-210-33	DIODE	EC10DS2			
D409	8-719-210-33	DIODE	EC10DS2			
D416	8-719-801-78	DIODE	1SS184			
		< IC >				
IC201	8-759-516-43	IC	CD4053BCM			
IC202	8-752-037-90	IC	CXA1331M			
IC203	8-759-996-43	IC	RC4558PS			
IC204	8-759-516-47	IC	CD4066BCM			
IC205	8-752-055-60	IC	CXA1578M			
IC401	8-759-099-08	IC	M50964-260FP			
IC402	8-759-207-05	IC	TA7272P			
IC403	8-759-996-43	IC	RC4558PS			
IC405	8-759-520-90	IC	PST572E			
IC406	8-759-516-41	IC	CD4052BCM			
		< COIL >				
L403	1-410-482-31	INDUCTOR	100uH			
L404	1-410-482-31	INDUCTOR	100uH			
		< TRANSISTOR >				
Q201	8-729-207-56	TRANSISTOR	RN1402			
Q202	8-729-602-21	TRANSISTOR	2SC4154-F			
Q301	8-729-207-56	TRANSISTOR	RN1402			
Q302	8-729-602-21	TRANSISTOR	2SC4154-F			
Q401	8-729-804-41	TRANSISTOR	2SB1122-S			
Q402	8-729-804-41	TRANSISTOR	2SB1122-S			
Q403	8-729-207-68	TRANSISTOR	RN2402			
Q404	8-729-207-56	TRANSISTOR	RN1402			
Q405	8-729-207-68	TRANSISTOR	RN2402			
Q407	8-729-207-68	TRANSISTOR	RN2402			
Q408	8-729-207-56	TRANSISTOR	RN1402			
Q409	8-729-207-68	TRANSISTOR	RN2402			
Q410	8-729-901-06	TRANSISTOR	DTA144EK			
Q411	8-729-207-56	TRANSISTOR	RN1402			

TC MAIN

Ref.No.	Part No.	Description				Remark
Q412	8-729-207-68	TRANSISTOR	RN2402			
Q414	8-729-207-68	TRANSISTOR	RN2402			
Q415	8-729-207-68	TRANSISTOR	RN2402			
Q416	8-729-422-41	TRANSISTOR	XN1114			
Q417	8-729-422-41	TRANSISTOR	XN1114			
Q420	8-729-602-36	TRANSISTOR	2SA1602-F			
Q501	8-729-901-06	TRANSISTOR	DTA144EK			
Q2001	8-729-216-22	TRANSISTOR	2SA1162-G			
Q2002	8-729-120-28	TRANSISTOR	2SC1623-L5L6			
		< RESISTOR >				
R108	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R109	1-216-043-00	METAL CHIP	560	5%	1/10W	
R110	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R201	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R202	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R203	1-216-056-00	METAL GLAZE	2K	5%	1/10W	
R204	1-216-060-00	METAL GLAZE	3K	5%	1/10W	
R205	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R206	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R207	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R208	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R209	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R210	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R211	1-216-025-00	METAL CHIP	100	5%	1/10W	
R212	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R213	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R214	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R215	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R218	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R219	1-216-043-00	METAL CHIP	560	5%	1/10W	
R220	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R301	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R302	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R303	1-216-056-00	METAL GLAZE	2K	5%	1/10W	
R304	1-216-060-00	METAL GLAZE	3K	5%	1/10W	
R305	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R306	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R307	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R308	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R309	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R310	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R311	1-216-025-00	METAL CHIP	100	5%	1/10W	
R312	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R313	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R314	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R315	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R320	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	

Ref.No.	Part No.	Description				Remark
R401	1-216-037-00	METAL CHIP	330	5%	1/10W	
R402	1-216-037-00	METAL CHIP	330	5%	1/10W	
R403	1-216-037-00	METAL CHIP	330	5%	1/10W	
R404	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R405	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R406	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R407	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R408	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R409	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R410	1-216-045-00	METAL CHIP	680	5%	1/10W	
R411	1-216-037-00	METAL CHIP	330	5%	1/10W	
R412	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R413	1-216-045-00	METAL CHIP	680	5%	1/10W	
R414	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R415	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R416	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R417	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R418	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R419	1-216-084-00	METAL CHIP	30K	5%	1/10W	
R420	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R421	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R422	1-216-090-00	METAL CHIP	51K	5%	1/10W	
R423	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R424	1-216-090-00	METAL CHIP	51K	5%	1/10W	
R425	1-216-025-00	METAL CHIP	100	5%	1/10W	
R426	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R427	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R428	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R429	1-216-090-00	METAL CHIP	51K	5%	1/10W	
R430	1-216-084-00	METAL CHIP	30K	5%	1/10W	
R431	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R432	1-216-090-00	METAL CHIP	51K	5%	1/10W	
R433	1-216-025-00	METAL CHIP	100	5%	1/10W	
R434	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R435	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R436	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R437	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R440	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R441	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R443	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R444	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R445	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R446	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R447	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R448	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R449	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R450	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R451	1-216-097-00	METAL CHIP	100K	5%	1/10W	

Ref.No.	Part No.	Description				Remark
R452	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R453	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R454	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R455	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R456	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R460	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R461	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R462	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R463	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R464	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R465	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R466	1-216-025-00	METAL CHIP	100	5%	1/10W	
R467	1-216-025-00	METAL CHIP	100	5%	1/10W	
R474	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R475	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R476	1-216-025-00	METAL CHIP	100	5%	1/10W	
R477	1-216-025-00	METAL CHIP	100	5%	1/10W	
R478	1-216-025-00	METAL CHIP	100	5%	1/10W	
R479	1-216-025-00	METAL CHIP	100	5%	1/10W	
R480	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R481	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R482	1-216-063-00	METAL CHIP	3.9K	5%	1/10W	
R483	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R484	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R485	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R503	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R504	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R4000	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R4001	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R4002	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R4003	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R4004	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R4005	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R4006	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R4007	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R4008	1-216-298-00	METAL CHIP	2.2	5%	1/10W	
R4421	1-216-025-00	METAL CHIP	100	5%	1/10W	
		< VARIABLE RESISTOR >				
RV201	1-241-136-11	RES, ADJ, CARBON 10K				
RV301	1-241-136-11	RES, ADJ, CARBON 10K				
		< TEST PIN >				
*TP201	1-564-518-11	PLUG, CONNECTOR 3P				
		< VIBRATOR >				
X401	1-567-819-11	VIBRATOR, CERAMIC (4MHz)				

****

Ref.No.	Part No.	Description				Remark
*	A-4365-220-A	TC SW BOARD, COMPLETE				
		**********				
		< DIODE >				
D351	8-719-310-24	LED	SEL4525C-C (◁)			
D352	8-719-310-24	LED	SEL4525C-C (▷)			
D353	8-719-312-37	LED	SEL4225C-C (HIGH SPEED DUBBING)			
D355	8-719-312-37	LED	SEL4225C-C (CD SYNCHRO)			
D356	8-719-310-04	LED	SEL4925A-D (❚❚ PAUSE)			
D357	8-719-310-24	LED	SEL4525C-C (◁)			
D358	8-719-310-24	LED	SEL4525C-C (▷)			
D359	8-719-312-37	LED	SEL4225C-C (● REC)			
		< RESISTOR >				
R351	1-216-029-00	METAL CHIP	150	5%	1/10W	
R352	1-216-033-00	METAL CHIP	220	5%	1/10W	
R353	1-216-037-00	METAL CHIP	330	5%	1/10W	
R354	1-216-041-00	METAL CHIP	470	5%	1/10W	
R355	1-216-045-00	METAL CHIP	680	5%	1/10W	
R356	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R357	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R359	1-216-029-00	METAL CHIP	150	5%	1/10W	
R360	1-216-033-00	METAL CHIP	220	5%	1/10W	
R361	1-216-037-00	METAL CHIP	330	5%	1/10W	
R362	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R364	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R365	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R366	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R381	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R382	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
		< SWITCH >				
S351	1-572-184-11	SWITCH, KEYBOARD (DECK A:□)				
S352	1-572-184-11	SWITCH, KEYBOARD (DECK A:▷)				
S353	1-572-184-11	SWITCH, KEYBOARD (DECK A:◁)				
S354	1-572-184-11	SWITCH, KEYBOARD (DECK B:⏮)				
S355	1-572-184-11	SWITCH, KEYBOARD (DECK B:⏭)				
S356	1-572-184-11	SWITCH, KEYBOARD (DECK B:● REC)				
S357	1-572-184-11	SWITCH, KEYBOARD (HIGH SPEED DUBBING)				
S359	1-572-184-11	SWITCH, KEYBOARD (CD SYNCHRO)				
S360	1-572-184-11	SWITCH, KEYBOARD (DECK B:□)				
S361	1-572-184-11	SWITCH, KEYBOARD (❚❚ PAUSE)				
S362	1-572-184-11	SWITCH, KEYBOARD (DECK B:▷)				
S363	1-572-184-11	SWITCH, KEYBOARD (DECK B:◁)				
S364	1-572-184-11	SWITCH, KEYBOARD (DECK A:⏮)				
S365	1-572-184-11	SWITCH, KEYBOARD (DECK A:⏭)				
S371	1-692-503-11	SWITCH, SLIDE (DIRECTION)				
S372	1-692-503-11	SWITCH, SLIDE (DOLBY NR)				

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TRANSFORMER

Ref.No.	Part No.	Description	Remark
*	1-649-247-11	TRANSFORMER BOARD	
		**********	
*	1-533-293-11	FUSE HOLDER	
	7-682-548-04	SCREW +BVTT 3X8 (S)	
		< CONNECTOR >	
CN961	1-690-123-21	REED (WITH CONNECTOR) (2 CORE)	
		< FUSE >	
⚠F111	1-532-773-21	FUSE, MICRO (SECONDARY) (0.5A/125)	
⚠F911	1-532-743-11	FUSE, GLASS TUBE (2A/125V)	
⚠F912	1-532-743-11	FUSE, GLASS TUBE (2A/125V)	
**********			
		MISCELLANEOUS	
		**********	
1	1-751-686-11	WIRE (FLAT TYPE) (5 CORE)	
8	1-751-689-11	WIRE (FLAT TYPE) (15 CORE)	
65	1-696-746-11	WIRE (FLAT TYPE) (15 CORE)	
67	1-751-690-11	WIRE (FLAT TYPE) (21 CORE)	
71	1-590-577-11	WIRE, FLAT TYPE (17 CORE)	
72	1-751-687-11	WIRE (FLAT TYPE) (9 CORE)	
115	1-590-902-11	WIRE, FLAT TYPE (9 CORE)	
167	1-638-983-11	PC BOARD, MOTOR FLEXIBLE	
HP101	A-2003-837-F	DECK ASSY, HEAD	
HRP101	A-2003-838-F	DECK ASSY,HEAD (DECK B) (including HE101)	
IC81A	8-749-924-10	PHONO REFLECTOR NJL5165K-B (H1) (DECK A)	
IC81B	8-749-924-10	PHONO REFLECTOR NJL5165K-B (H1) (DECK B)	
M101	1-698-173-11	MOTOR, FAN (DC)	
M1A	X-3365-377-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M1B	X-3365-377-1	MOTOR ASSY (CAPSTAN) (DECK B)	
M2A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M2B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	
⚠T901	1-423-780-11	TRANSFORMER, POWER	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	3-703-710-41	STICKER, SONY SYMBOL (12)	
*	4-950-766-01	LABEL, FCC DIGITAL DEVICE	(US)
**********			

Ref.No.	Part No.	Description	Remark
		**********	
		HARDWARE LIST	
		**********	
#1	7-682-547-09	SCREW +BVTT 3X6 (S)	
#2	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
#3	7-685-645-79	SCREW +BTP 3X6 TYPE2 N-S	
#4	7-682-548-04	SCREW +BVTT 3X8 (S)	
#5	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#6	7-621-770-67	SCREW +PTT 2.6X6 (S)	
#7	7-627-556-08	SCREW +P 2.6X2.8	
#8	7-621-775-00	SCREW +B 2.6X3	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les components identifiés parune marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par unepièc portant le numéro spéccifié.

9-959-100-11

Sony Corporation
Audio Group

English
93H1832-1
Printed in Japan
©1993.8
Published by Audio Sector Quality Assurance Dept.

DXA-C90

SONY
SERVICE MANUAL

US Model
Canadian Model

SUPPLEMENT-1

File this supplement with the service manual.

BLOCK DIAGRAM

English
93L1834-1
Printed in Japan
©1993.12
Published by Audio Sector Quality Assurance Dept.

Sony Corporation
Audio Group

9-959-100-81

• **BLOCK DIAGRAM**

HP101 PLAY BACK HEAD
HRPE101 REC/PB HEAD
HE101 ERASE HEAD
IC31 (A) PB EQ AMP
IC31 (A) PBEQ AMP
IC31 (B) REC/PB SELECT SWITCH
RV21 PB (R) LEVEL
RV11 PB (L) LEVEL
IC201 DECK A/B SELECTOR
IC202 DOLBY ENCODER/DECODER
S372 DOLBY NR
IC403 AMS AMP
Q420 AMS SWITCH
IC406 TAPE TYPE SELECT SWITCH
Q53 BIAS REG
Q51, 52 BIAS OSC
T51 BIAS OSC
RV12 REC BIAS
RV22 REC BIAS
Q407 RELAY DRIVE
DECK A
DECK B
IC402 REEL MOTOR DRIVE
M2A REEL MOTOR
M2B REEL MOTOR
IC81 ROTATION DET
S83 METAL DET
S82 CrO2 DET
S81 STOP DET
S86 HALF DET
S84 ERASE PROOF (DECK A)
S85 ERASE PROOF (DECK B)
IC405 RESET
NORMAL/TEST
TP401
IC401 DECK CONTROL
Q401 MOTOR +B SWITCH
Q402 MOTOR +B SWITCH
Q403 CAPSTAN MOTOR H/L SWITCH
Q404 H/L SWITCH
Q411 H/L SWITCH
Q71 NORMAL/HIGH SPEED SWITCH
RV71 NORMAL SPEED
RV72 HIGH SPEED
M1A CAPSTAN MOTOR
M1B CAPSTAN MOTOR
X4401 4MHz
LED DRIVE Q416, 417
D351-353, 355-359
AU BUS I/O BUFFER Q408, 414, 415
Q201, 301, Q412 PB70uS SWITCH
Q501 REC/PB SWITCH
Q405 DVB SPEED SWITCH
IC204 SELECT SWITCH
Q410 DOLBY OUT SWITCHING
Q409 PASS OUT SWITCHING
IC203 PASS AMP
RV301 REC R LEVEL
RV201 REC L LEVEL
IC205 REC EQ AMP
Q302 MUTE
Q202 MUTE
Q2001, 2002 LINE MUTE SWITCH
Q903, 929 POWER SWITCH
Q101 POWER ON/OFF SWITCH
RY101
RY102
Q825 SWITCH
Q851 I/O BUFFER
CN501
TO SYSTEM CONTROL
IC521 FUNCTION SWITCH
J501 (1/2) DAT/MD IN VIDEO/PHONO
IC531 AMP
Q521 MUTE SWITCH
Q511 MUTING
Q561 MUTING
Q822 SWITCH
Q821 SWITCH
IC811 RESET
Q811 RESET
IC601 (L CH) IC651 (R CH) GEQ AMP
IC621 GEQ VOLUME
LED DRIVE Q891-896
D891-896
FL801 FLUORESCENT INDICATOR TUBE
X821 8 38MHz
IC821 SYSTEM CONTROL, FL DRIVE
IC801 SPECTRUM ANALYZER
IC802 SPECTRUM ANALYZER
IC1303 AMP
IC1306 DIGITAL ECHO
X1301 2MHz
IC1307 SELECT SWITCH
Q823 SWITCH
Q824 SWITCH
IC1304 AMP
IC631 AMP
J501 (2/2) DAT/MD OUT
RV632 DBS FREQ
RV631 DBS LEVEL
Q631, 681 SWITCH
D601 DBS
Q643 MUTE
Q641 MUTE
Q691 MUTE
IC641 MOTOR DRIVE
RV601 VOLUME
IC701 POWER AMP
Q732, 733 MUTE
FAN DRIVER IC181
J101 SPEAKER
RY103
CNJ121 HEAD PHONES
Q701, 751 OVER CURRENT DETECT
Q141 PROTECTION
IC141 PROTECTOR
AC OFF DET
OVER LOAD DET
OFF SET DET
LATCH/AUTO RESET
F/F
VCC ON MUTE
IC703 TEMP SENSOR
AC IN
T901
D903-906 RECT
IC901 REG
Q907 REG -7 5V
Q904 REG +7 5V
IC902 +5V REG
IC903 +7V REG
IC904 -7V REG
18

DXA-C90

SONY

US Model
Canadian Model

SERVICE MANUAL

SUPPLEMENT-2

File this supplement with the service manual.

Subject : 1. CORRECTION
2. PARTS CHANGED
3. CHANGE OF MECHANISM DECK (DECK B)
4. PARTS SUPPLY CLASSIFICATION CHANGE

(ECN-TA401769)

- The mechanism deck (Deck B) has been changed from TCM-190RB42A to TCM-190RB52A.
  The MD (BX) board has been changed according to the change of the mechanism deck. MD (BX) BOARD and LEAF SW (B) BOARD are the same as those which are mentioned in the service manual of DXA-C70 SUPPLEMENT-3 (9-959-099-83).
  Then, please refer to "5. MD (BX) BOARD AND LEAF SW (B) BOARD CHANGE" in the service manual of DXA-C70 SUPPLEMENT-3 for the circuit diagram, printed wiring board and electrical parts list of these two boards.

1. CORRECTION

- Correct your service manual as shown below.

☛ : indicates corrected portion.

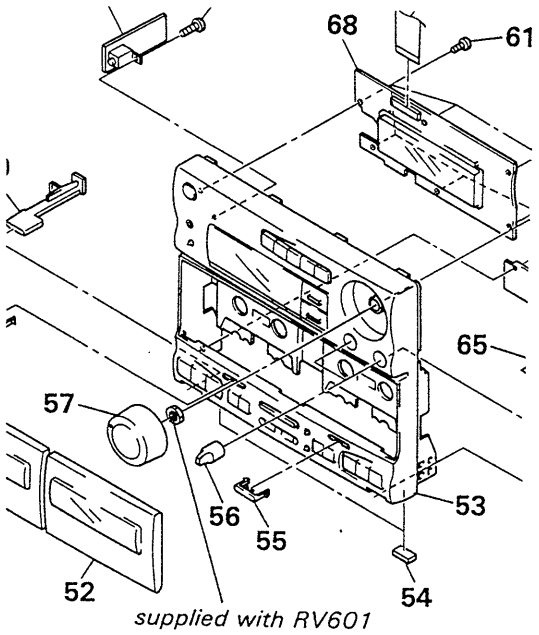
Page	INCORRECT				CORRECT			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
			*** EXPLODED VIEWS ***				*** EXPLODED VIEWS ***	
44	* 202	3-359-425-01	SLIDER (REVERSE SLIDER)		_202	3-359-425-01	SLIDER (REVERSE SLIDER)	
	* 206	3-359-427-01	SLIDER (LEVERSE SLIDER)		_206	3-359-427-01	SLIDER (LEVERSE SLIDER)	
			*** HARDWARE LIST ***				*** HARDWARE LIST ***	
58	#1	7-682-547-09	SCREW +BVTT 3x6 (S)		#1	7-685-871-01	SCREW +BVTT 3x6 (S)	

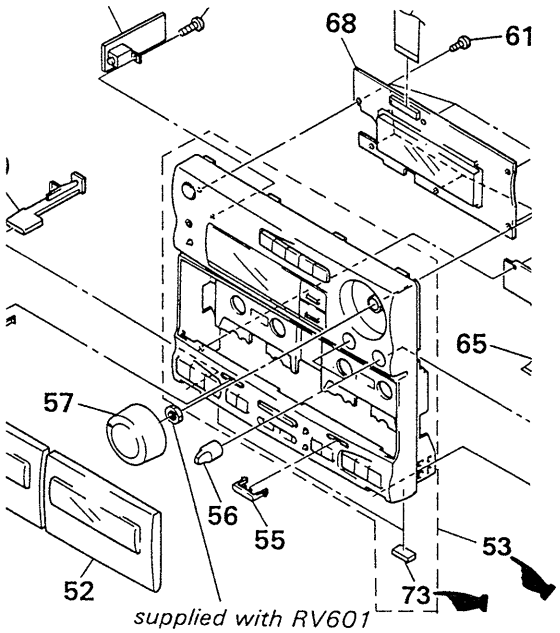
2. PARTS CHANGED

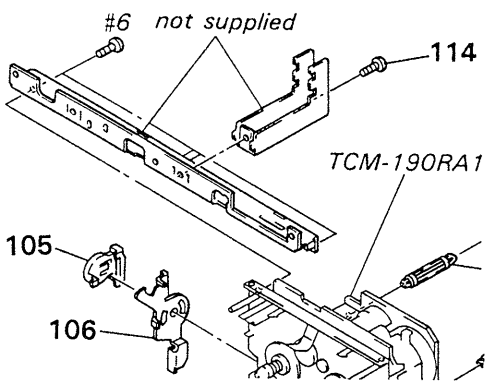
☛ : indicates changed portion.

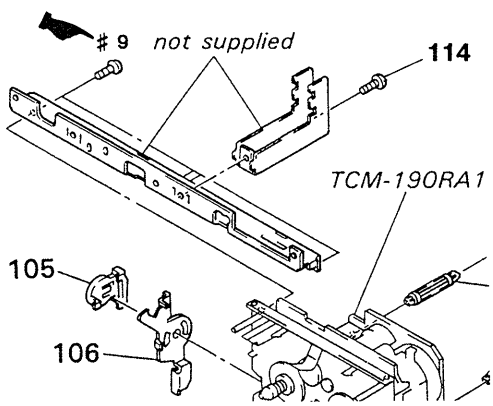
Page	FORMER				NEW			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
			*** EXPLODED VIEWS ***				*** EXPLODED VIEWS ***	
40	* 2	A-4365-219-A	POWER BOARD, COMPLETE		* 2	A-4369-134-A	POWER BOARD, COMPLETE	
	* 7	A-4365-211-A	MAIN BOARD, COMPLETE		* 7	A-4369-133-A	MAIN BOARD, COMPLETE	

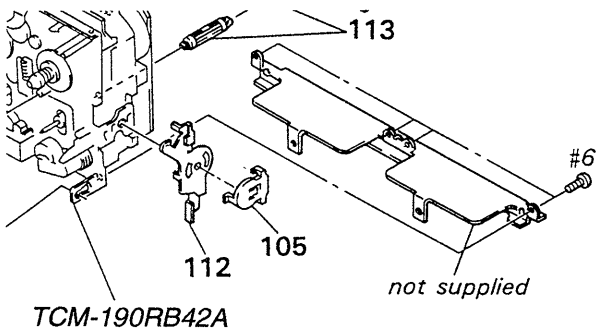
Page	FORMER				NEW			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
41	55	4-959-221-01	LID (AZIMUTH R)		55	4-959-221-11	LID (AZIMUTH R)	
	56	4-960-310-01	KNOB (DBS)		56	4-960-310-11	KNOB (DBS)	
	57	X-4942-957-1	KNOB (VOLUME) ASSY		57	X-4944-192-1	KNOB (VOLUME) ASSY	
	58	4-959-222-01	LID (AZIMUTH L)		58	4-959-222-11	LID (AZIMUTH L)	
	59	4-959-210-01	BUTTON (EJECT-L)		59	4-959-210-11	BUTTON (EJECT-L)	
	60	4-959-288-01	BUTTON (EJECT-R)		60	4-959-288-11	BUTTON (EJECT-R)	
	64	4-959-223-01	KNOB (TC)		64	4-959-223-11	KNOB (TC)	
	65	1-696-746-11	WIRE (FLAT TYPE) (15 CORE)		65	1-751-716-11	WIRE (FLAT TYPE) (15 CORE)	
					73	4-930-336-21	FOOT (FELT)	
42	108	3-354-955-01	LEVER (EJ SAFTY LEVER L)		108	3-926-195-01	LEVER (EJ-L)	
	110	3-354-956-01	LEVER (EJ SAFTY LEVER R)		110	3-926-196-01	LEVER (EJ-R)	

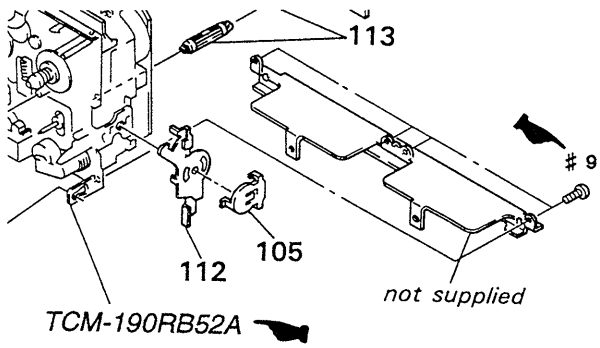








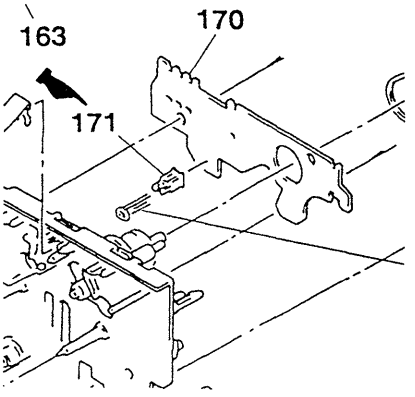
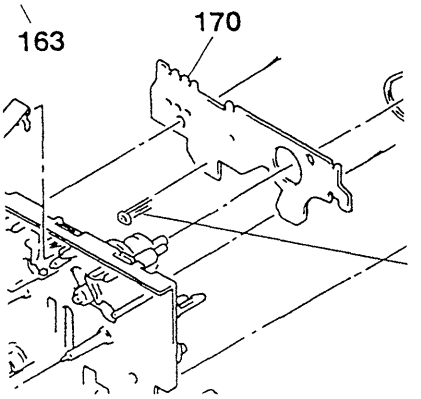




3. CHANGE OF MECHANISM DECK (DECK B)

• The mechanism deck (B deck) has been changed from TCM-190RB42A to TCM-190RB52A.

☛ : indicates changed portion.

Page	FORMER				NEW			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
			*** EXPLODED VIEWS ***				*** EXPLODED VIEWS ***	
42	115	1-590-902-11	WIRE, FLAT TYPE (9 CORE)		115	1-765-404-11	WIRE (FLAT TYPE) (7 CORE)	
43	151	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY		151	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY (DECK A)	
					151	X-3366-047-1	LEVER (PINCH F) ASSY (DECK B)	
	152	3-359-455-01	SPRING, TORSION		152	3-359-455-01	SPRING, TORSION (DECK A)	
					152	3-907-362-01	SPRING, TORSION (DECK B)	
	155	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY		155	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY (DECK A)	
					155	X-3366-048-1	LEVER (PINCH R) ASSY (DECK B)	
	157	X-3362-078-1	TABLE ASSY (B), REEL		157	X-3362-078-1	TABLE ASSY (B), REEL (DECK A)	
					157	X-3366-971-1	TABLE ASSY (B), REEL (DECK B)	
	160	X-3359-406-1	FLYWHEEL (FWD) ASSY		160	X-3359-406-1	FLYWHEEL (FWD) ASSY (DECK A)	
					160	X-3367-629-1	FLYWHEEL (FWD) ASSY (DECK B)	
	161	X-3359-410-1	FLYWHEEL (REV) ASSY		161	X-3359-410-1	FLYWHEEL (REV) ASSY (DECK A)	
					161	X-3367-630-1	FLYWHEEL (REV) ASSY (DECK B)	
	* 164	3-359-436-01	BASE (THRUST RETAINER), FITTING		* 164	3-359-436-01	BASE (THRUST RETAINER), FITTING (DECK A)	
					164	3-359-436-11	BASE (THRUST RETAINER), FITTING (DECK B)	
	* 168	A-2007-102-1	MD-B (IC) BOARD, COMPLETE (DECK B)		* 168	A-2007-133-A	MD-B (ICD) BOARD, COMPLETE (DECK B)	
	* 170	1-634-841-14	LEAF SW (B) BOARD (DECK B)		* 170	1-638-020-11	LEAF SW (B) BOARD (DECK B)	
	171	3-343-419-01	HOLDER (S SENSER A)				not used	
	172	X-3359-404-1	TABLE ASSY, REEL		172	X-3359-404-1	TABLE ASSY, REEL (DECK A)	
					172	X-3366-970-1	TABLE ASSY, REEL (DECK B)	
	HRP101	A-2003-838-F	DECK ASSY, HEAD (DECK B) (including HE101)		HRP101	A-2004-527-A	DECK ASSY, HEAD (DECK B) (including HE101)	
								
44	* 204	3-359-415-01	SLIDER (TRIGGER SLIDER)		* 204	3-359-415-01	SLIDER (TRIGGER SLIDER) (DECK A)	
					204	3-359-415-11	SLIDER (TRIGGER SLIDER) (DECK B)	
	209	3-359-429-01	SLIDER (BRAKE PLATE)		209	3-359-429-01	SLIDER (BRAKE PLATE) (DECK A)	
					209	3-359-429-11	SLIDER (BRAKE PLATE) (DECK B)	
	211	X-3359-405-1	LEVER (FR ARM) ASSY		211	X-3359-405-1	LEVER (FR ARM) ASSY (DECK A)	
					211	X-3366-569-1	ARM ASSY, FR (DECK B)	
	212	3-359-453-01	SPRING (FR ARM), TORSION		212	3-359-453-01	SPRING (FR ARM), TORSION (DECK A)	
					212	3-924-185-11	SPRING (FR ARM), TORSION (DECK B)	
	213	3-359-419-01	GEAR (FR GEAR)		213	3-359-419-01	GEAR (FR GEAR) (DECK A)	
					213	3-359-419-11	GEAR (FR GEAR) (DECK B)	

Page	FORMER				NEW			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
58			*** MISCELLANEOUS ***				*** MISCELLANEOUS ***	
	65	1-696-746-11	WIRE (FLAT TYPE) (15 CORE)		65	1-751-716-11	WIRE (FLAT TYPE) (15 CORE)	
	115	1-590-902-11	WIRE (FLAT TYPE) (9 CORE)		115	1-765-404-11	WIRE (FLAT TYPE) (7 CORE)	
	HP101	A-2003-837-F	DECK ASSY, HEAD		HP101	A-2003-837-F	DECK ASSY, HEAD (DECK A)	
	HRP101	A-2003-838-F	DECK ASSY, HEAD (DECK B) (including HE101)		HRP101	A-2004-527-A	DECK ASSY, HEAD (DECK B) (including HE101)	
			*** ACCESSORIES & PACKING MATERIALS ***				*** ACCESSORIES & PACKING MATERIALS ***	
	*	4-950-766-01	LABEL, FCC DIGITAL DEVICE (US)				————————	
			*** HARDWARE LIST ***				*** HARDWARE LIST ***	
			————————		#9	7-685-862-09	SCREW +BVTT 2.6x6 (S)	

4. PARTS SUPPLY CLASSIFICATION CHANGE

Revise your service manual as shown below due to parts supply classification has been changed.

Page	CURRENT				REVISED			
	Ref.No	Part No	Description	Remark	Ref.No	Part No	Description	Remark
48			*** ELECTRICAL PARTS LIST ***				*** ELECTRICAL PARTS LIST ***	
			*** MAIN BOARD ***				*** MAIN BOARD ***	
	⚠F951	1-532-741-11	FUSE, GLASS TUBE (1.25A/125V)		⚠F951	1-533-417-11	FUSE, GLASS CYLINDRICAL (DIA.5) (1.25A/125V)	
	⚠F952	1-532-741-11	FUSE, GLASS TUBE (1.25A/125V)		⚠F952	1-533-417-11	FUSE, GLASS CYLINDRICAL (DIA.5) (1.25A/125V)	
52			*** POWER BOARD ***				*** POWER BOARD ***	
	⚠F101	1-532-747-11	FUSE, GLASS TUBE (5A/125V)		⚠F101	1-533-420-11	FUSE, GLASS CYLINDRICAL (DIA.5) (5A/125V)	
	⚠R107	1-219-136-11	FUSIBLE 0.22 5% 1/4W F		⚠R107	1-219-121-11	FUSIBLE 0.22 5% 1/4W F	
	⚠R108	1-219-136-11	FUSIBLE 0.22 5% 1/4W F		⚠R108	1-219-121-11	FUSIBLE 0.22 5% 1/4W F	
55			*** TC MAIN BOARD ***				*** TC MAIN BOARD ***	
	CN601	1-573-101-11	SOCKET, CONNECTOR 9P		CN601	1-750-585-11	SOCKET, CONNECTOR 7P	
	CN603	1-573-101-11	SOCKET, CONNECTOR 9P		CN603	1-750-585-11	SOCKET, CONNECTOR 7P	
58			*** TRANSFORMER BOARD ***				*** TRANSFORMER BOARD ***	
	⚠F911	1-532-743-11	FUSE, GLASS TUBE (2A/125V)		⚠F911	1-533-296-11	FUSE, GLASS CYLINDRICAL (DIA.5) (2A/125V)	
	⚠F912	1-532-743-11	FUSE, GLASS TUBE (2A/125V)		⚠F912	1-533-296-11	FUSE, GLASS CYLINDRICAL (DIA.5) (2A/125V)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

9-959-100-82

Sony Corporation
Home A&V Products Company

96L0922-1
Printed in Japan © 1996. 12
Published by Service and Safety Engineering Dept. (Shibaura)

HCD-C70/C90

SERVICE MANUAL

US Model
Canadian Model
HCD-C70/C90
AEP Model
UK Model
E Model
Australian Model
Tourist Model
HCD-C70

Photo : HCD-C70 (AEP model)

HCD-C70 is the tuner CD player section in FH-C7X and MHC-C70. HCD-C90 is the tuner CD player section in MHC-C90.

Model Name Using Similar Mechanism	HCD-C50/C50U
CD Mechanism Type	CDM23B-5BD3
Base Unit Type	BU-5BD3

SPECIFICATIONS

Tuner/CD Player

Tuner Section

System: FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range: 87.5 — 108 MHz
Antenna terminals: 75 ohms unbalanced
Intermediate frequency: 10.7 MHz

AM tuner section (US, CND)

Tuning range: 530 — 1,710 kHz (with the AM tuning interval set at 10 kHz)
531 — 1,710 kHz (with the AM tuning interval at 9 kHz)
Antenna: AM loop antenna, external antenna terminals
Intermediate frequency: 450 kHz

AM tuner section (AEP, UK, G, IT)

Tuning range: AM: 531 —1,602 kHz (G)
AM: 522 —1,611 kHz (IT)
MW: 531 —1,602 kHz (AEP, UK)
LW: 153 —279 kHz (AEP, UK)
Antenna: AM loop antenna, external antenna terminals
Intermediate frequency: 450 kHz

AM tuner section (E, EA, SP, AUS, JE)

Tuning range: MW: 531 —1,602 kHz (with the MW tuning interval set at 9 kHz)
MW: 530 —1,710 kHz (with the MW tuning interval set at 10 kHz) (except the model for Middle East)
SW: 5.95 — 17.90 MHz
Antenna: AM loop antenna, external antenna terminals
Intermediate frequency: 450 kHz

CD Player Section

System: Compact disc digital audio system
Laser: Semiconductor laser
Wavelength: 780 — 790 nm
Outputs: DIGITAL OPTICAL OUT (optical output connector): wave length 660 nm, output level –18 dBm

— Continued on next page —

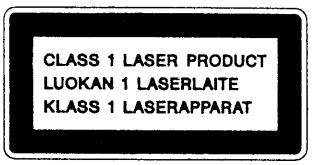
TUNER CD PLAYER

SONY

Supplied accessories (Sold only by a set)
Remote Commander (1)
Sony SUM-3 (NS) batteries (2)
AM loop antenna (1)
FM antenna (1)
Flat cord (1)

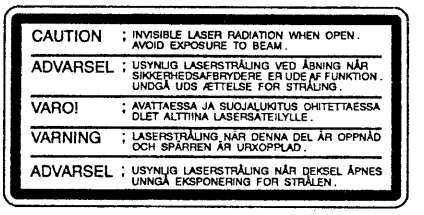
Design and specifications subject to change without notice.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.



This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside the unit.


CAUTION ; INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL ; USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO! ; AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING ; LASERSTRÅLING NÄR DENNA DEL ÄR OPPNAD OCH SPÄRREN ÄR URKOPPLAD.
ADVARSEL ; USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Fiexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING !!

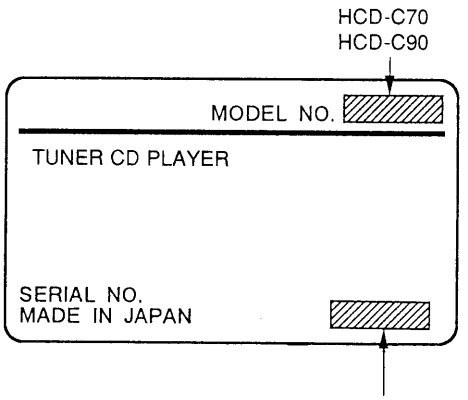
COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AUX COMPOSANTS RELATIFS ÁLA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MAPQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

MODEL IDENTIFICATION

— SPECIFICATION LABEL —



HCD-C70 (US, CND)	: 4-962-409-0□ (U/CA)
HCD-C70 (AEP, UK)	: 4-962-410-0□ (AE)
HCD-C70 (G)	: 4-962-411-0□ (AE4)
HCD-C70 (IT)	: 4-962-412-0□ (IT)
HCD-C70 (E, EA, AUS, SP, JE)	: 4-962-413-0□ (E)
HCD-C90 (US, CND)	: 4-962-415-0□ (U/CA)

Note

CND : Canadian model
G : German model
IT : Italian model
EA : Saudi Arabia model
AUS : Australian model
SP : Singapore model
JE : Tourist model

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

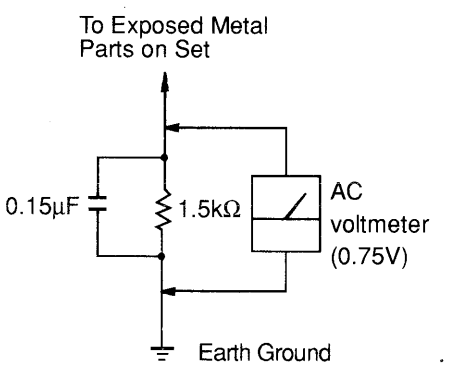


Fig. A. Using an AC voltmeter to check AC leakage.

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SECTION 1
SERVICING NOTE

- **POWER SUPPLIED WHILE SERVICING**

  This unit does not have its own power supply. It operates on the power supplied from the deck/amplifier (DXA-C70/C90) used by this series. Therefore connect the amplifier when servicing the unit as in electrical repairs.

  Power can also be supplied by connecting the "CDP/TC" connector of the conduction tool (PFJ-1). The following will be required to connect it.

  J-2501-063-A
  1-696-741-11 cord, (with connector)
  1-751-469-11 cord, (with connector)

  The connection to the tuner board can be checked with Pin 5 (FM-R CH) and Pin 6 (FL-L CH) of CN307.

- **MEASURING THE TUNER/TCB011 BOARDS VOLTAGE**

  Prepare the following tools (extension cables) when measuring the voltages of the TUNER and TCB011 boards.

  1) 4-pin extension cable (J-8000-026-A) × 3
  2) 8-pin extension cable (J-8000-027-A) × 1

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.

During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.

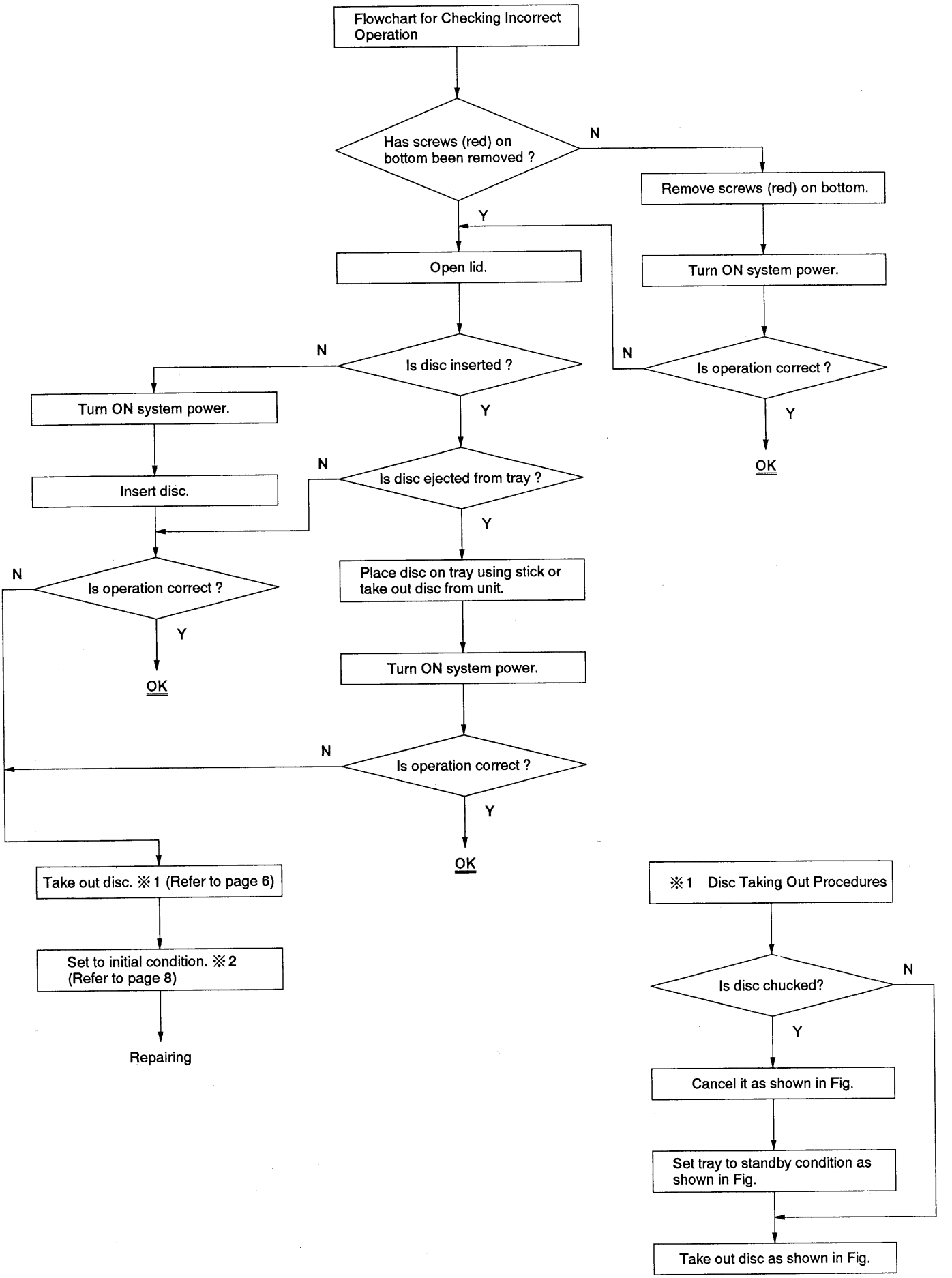
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

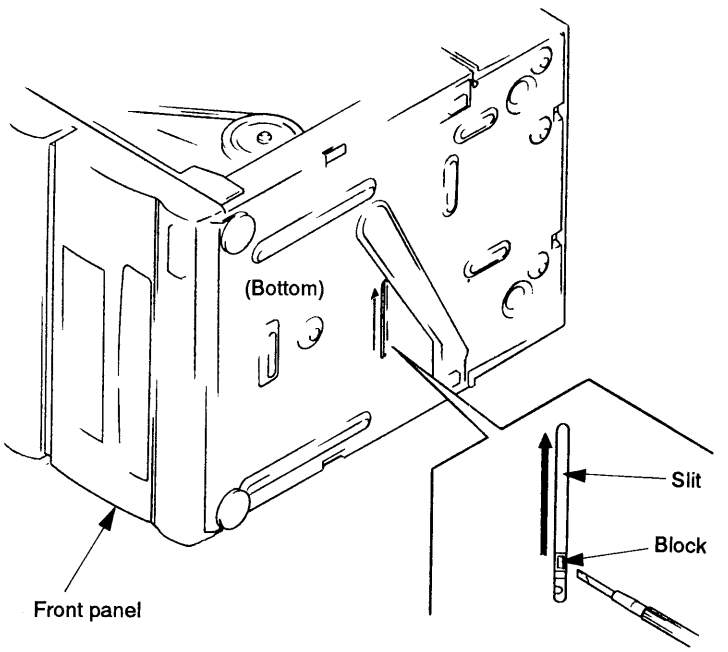
The laser beam on this model is concentrated so as to be focused on the disc reflectives surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

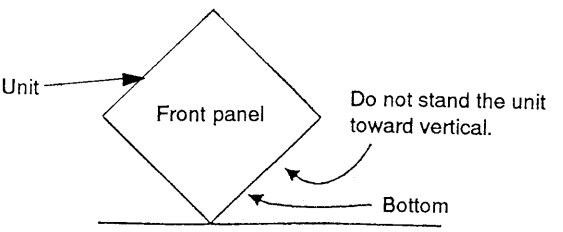
Carry out the "S curve check" in "CD section adjustment" and check that the S curve waveform is output three times.


Flowchart for Checking Incorrect Operation
Has screws (red) on bottom been removed ?
N
Remove screws (red) on bottom.
Y
Open lid.
Turn ON system power.
Is disc inserted ?
N
Is operation correct ?
N
Y
OK
Turn ON system power.
Y
Insert disc.
Is disc ejected from tray ?
N
Y
N
Is operation correct ?
Place disc on tray using stick or take out disc from unit.
Y
OK
Turn ON system power.
N
Is operation correct ?
Y
OK
Take out disc. ※1 (Refer to page 6)
Set to initial condition. ※2 (Refer to page 8)
Repairing
※1 Disc Taking Out Procedures
Is disc chucked?
N
Y
Cancel it as shown in Fig.
Set tray to standby condition as shown in Fig.
Take out disc as shown in Fig.

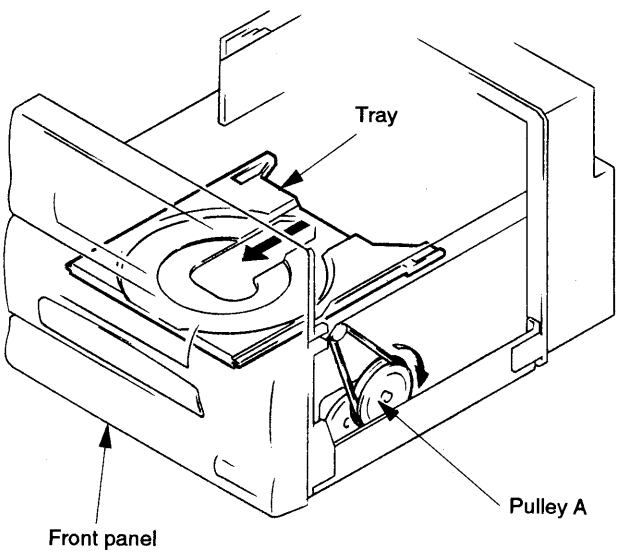
Disc Taking Out Procedures



1) Insert a thin stick into the hollow of the white block and move it in the arrow direction.
(When a disc is chucked, handle the unit as follows to avoid disc removal.)



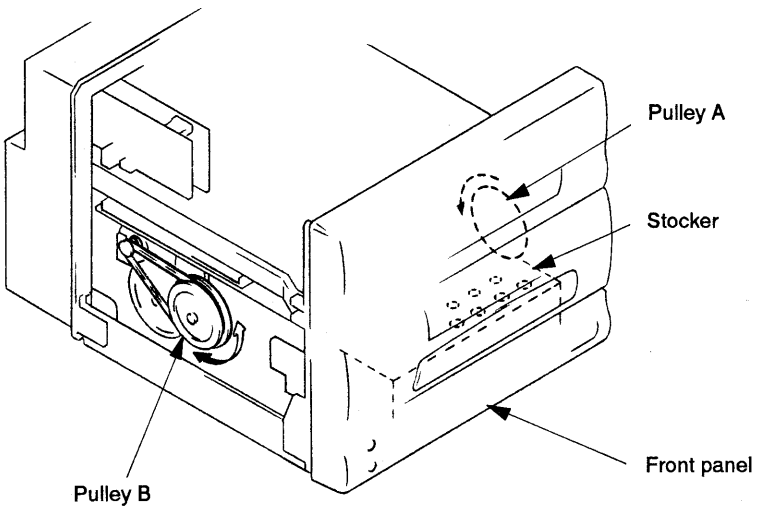
2) Turn the pulley A in the arrow ↻ direction and make sure that the disc tray moves in the arrow ⬅ direction. And further turn the pulley A until the tray aligns with other trays.



3) Open the front panel lid. Turn the pulley B to allow the stock, which has the disc tray, to go up and down until the disc inserted tray aligns with the front panel lid position .

4) Turn the pulley A in the arrow ○ direction to allow the disc inserted tray to be ejected. Take out the disc and turn the pulley A in the reverse direction to allow the disc inserted tray to align with other trays.

In case two or more trays have discs, repeat step 3) and 4).



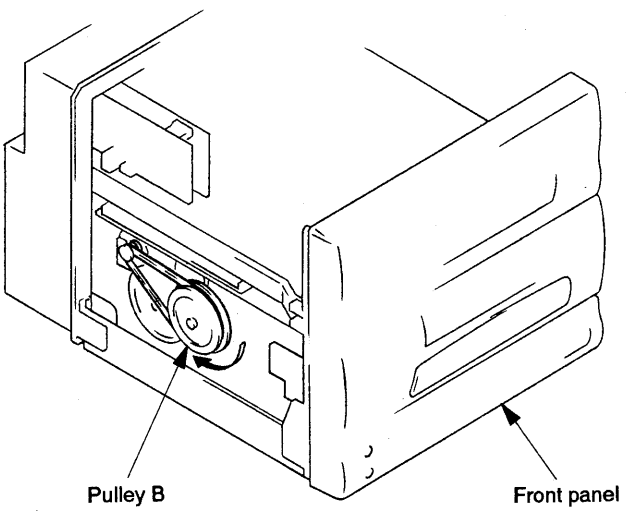
※2 Initial setting procedures

1) In case turning ON the system power supply allows the mechanism to work:
Fist, make sure that all discs have been taken out.

Open the disc No.1.
↓
Turn OFF the system power supply.
↓
Make sure that ''OFF" appears on the CD display.
↓
Blinking and character disappearing indicates setting completion.

2) In case turning ON the system power supply does not allow the mechanism to work:
Move the disc tray as shown in Fig.

Initial Setting Procedures



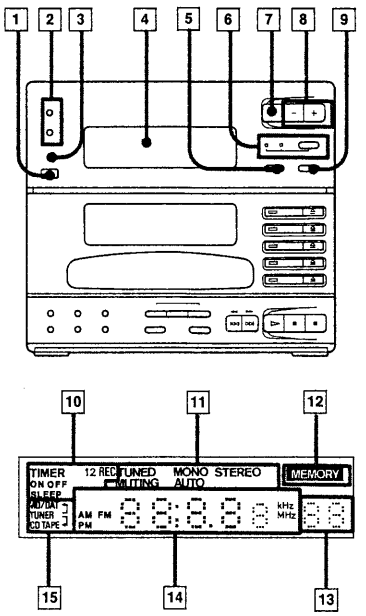
※ Make sure that all trays are in the correct positions. Turn the pulley B in the arrow direction until it stops.

SECTION 2
GENERAL

This section is extracted from instruction manual.

Parts Identification

B



Tuner/CD Player Section

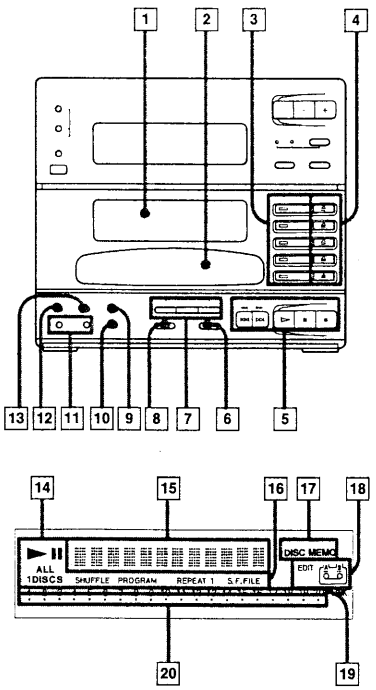
Tuner **B**

[1] Remote control sensor
[2] WAKE UP TIMER 1, 2 /CLOCK SET buttons
[3] TIMER REC button
[4] Display window
[5] MEMORY/NEXT button
[6] MODE button and TUNING/PRESET indicators
[7] BAND selector
[8] PRESET/TIMER –/+ buttons
[9] STEREO/MONO (stereo/monaural) button

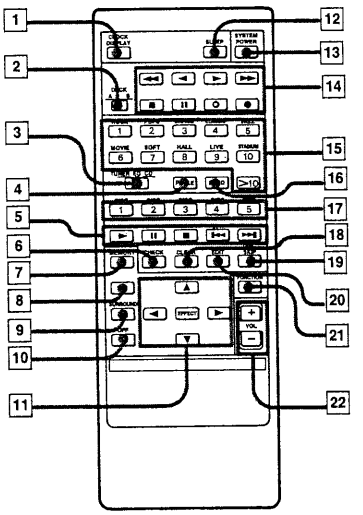
Display

[10] Timer indications
[11] Tuner indications
[12] MEMORY indication
[13] Preset station number display
[14] Frequency and clock display
[15] Program source/recording equipment display for timer operation

C



D



CD Player C

1 Display window
2 Disc tray door
3 DISC 1 — 5 selectors and disc tray indicators
4 OPEN/CLOSE ⏏ buttons
5 CD operation buttons
■: Stop button
❙❙: Pause button
▷: Play button
⏮◀◀ ▶▶⏭: Manual search (when kept depressed)/Automatic Music Sensor (when pressed) buttons
6 REPEAT button
7 PLAY MODE buttons
PROGRAM button
SHUFFLE button
CONTINUE button
8 TIME/MEMO button
9 S.F.FILE (Sound Field File) button
10 CURSOR button
11 CHARACTER ◁/▷ buttons
12 MEMO INPUT button
13 ERASE button

Display

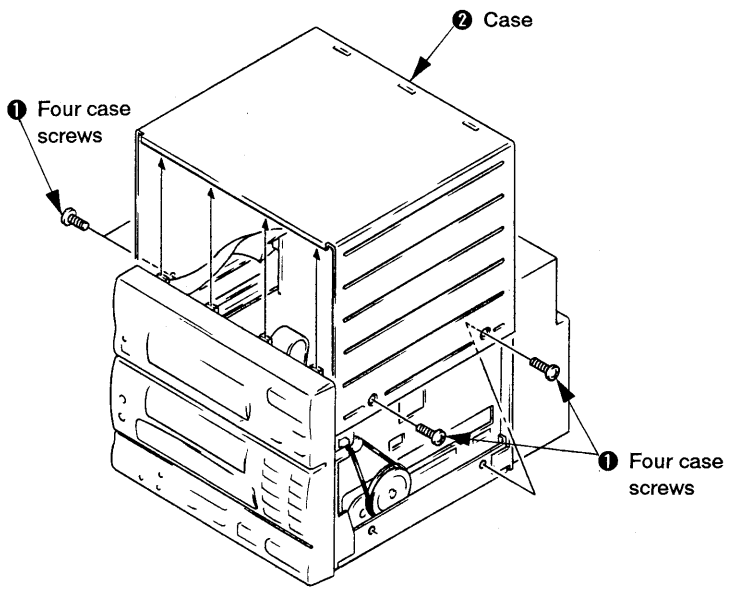
14 CD playing mode indications
15 CD playing time display
Disc Memo display
16 S.F.FILE on/off indication
17 DISC MEMO on/off indication
18 CD editing mode indications
19 CD selection number display
20 Indicators for all track numbers on a CD

Remote Commander D

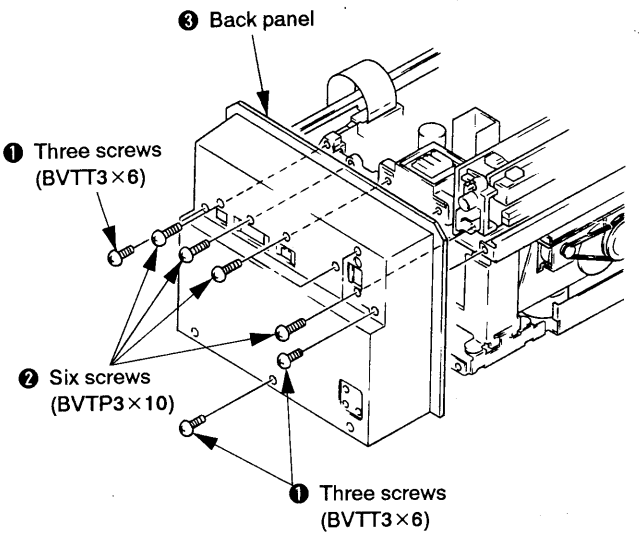
1 CLOCK DISPLAY button
2 DECK A/B selector
3 TUNER/EQ/CD numeric buttons function selector
4 P. FILE button
5 CD player operation buttons
6 CHECK button
7 MEMORY button
8 EQ button
9 SURROUND button
10 OFF button
11 CURSOR CONTROL buttons and EFFECT button
12 SLEEP button
13 SYSTEM POWER button
14 Cassette deck operation buttons
15 Tuner/equalizer/CD numeric buttons
16 BAND button
17 DISC 1 — 5 selectors
18 CLEAR button
19 DISC SKIP button
20 EDIT button
21 FUNCTION button
22 VOL +/– buttons

SECTION 3
DISASSEMBLY

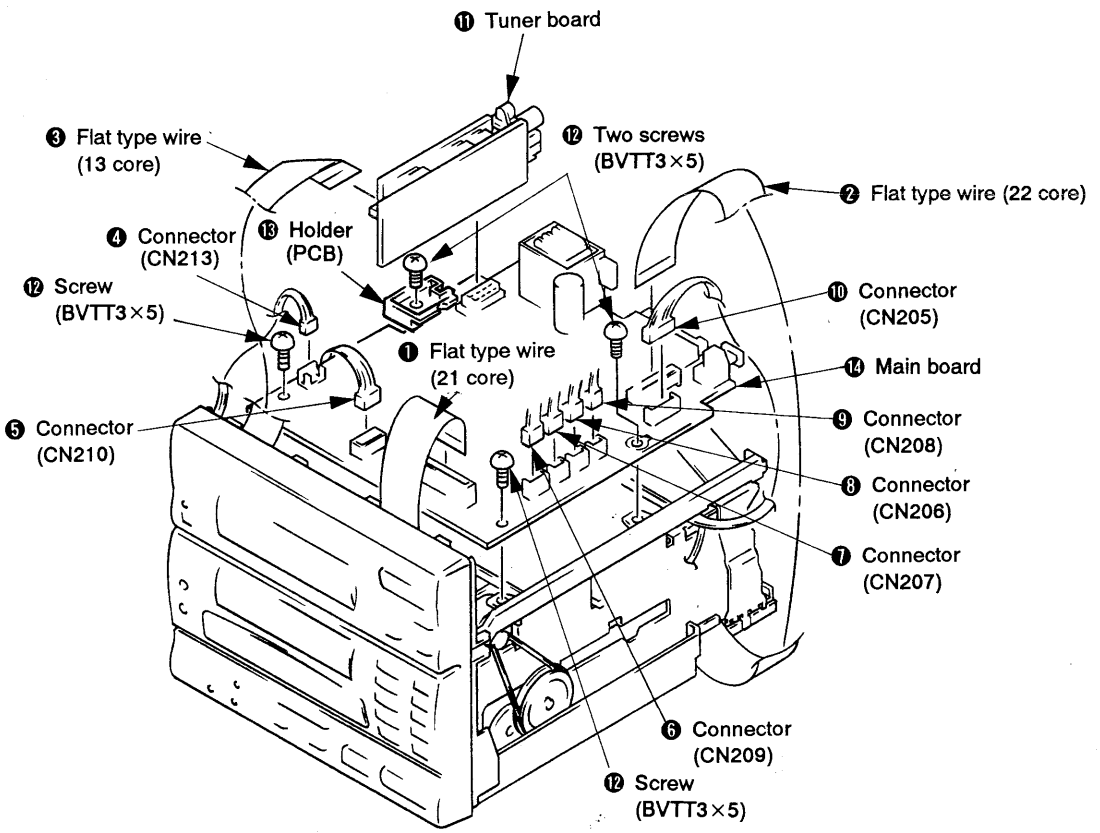
3-1. REMOVAL OF CASE



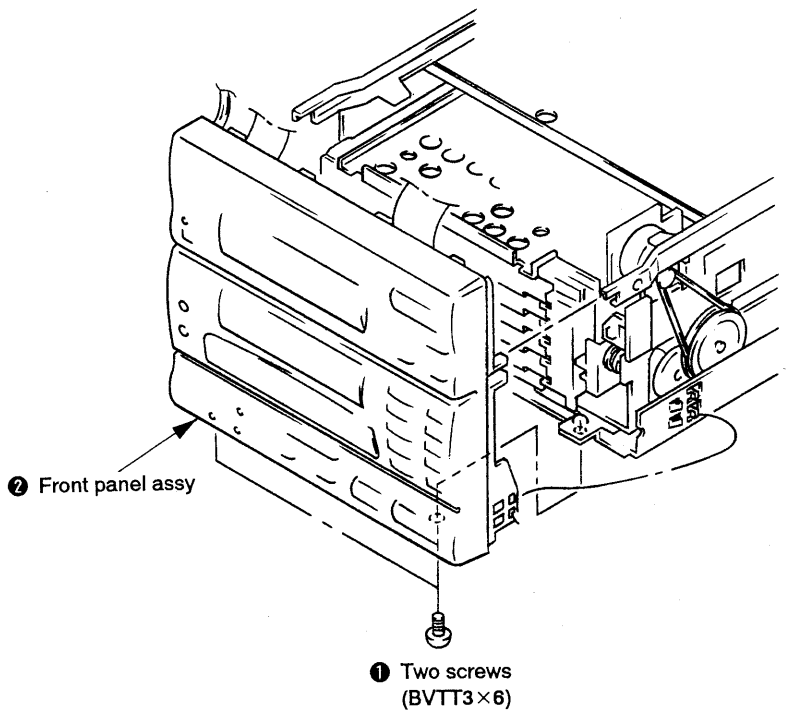
3-2. REMOVAL OF BACK PANEL



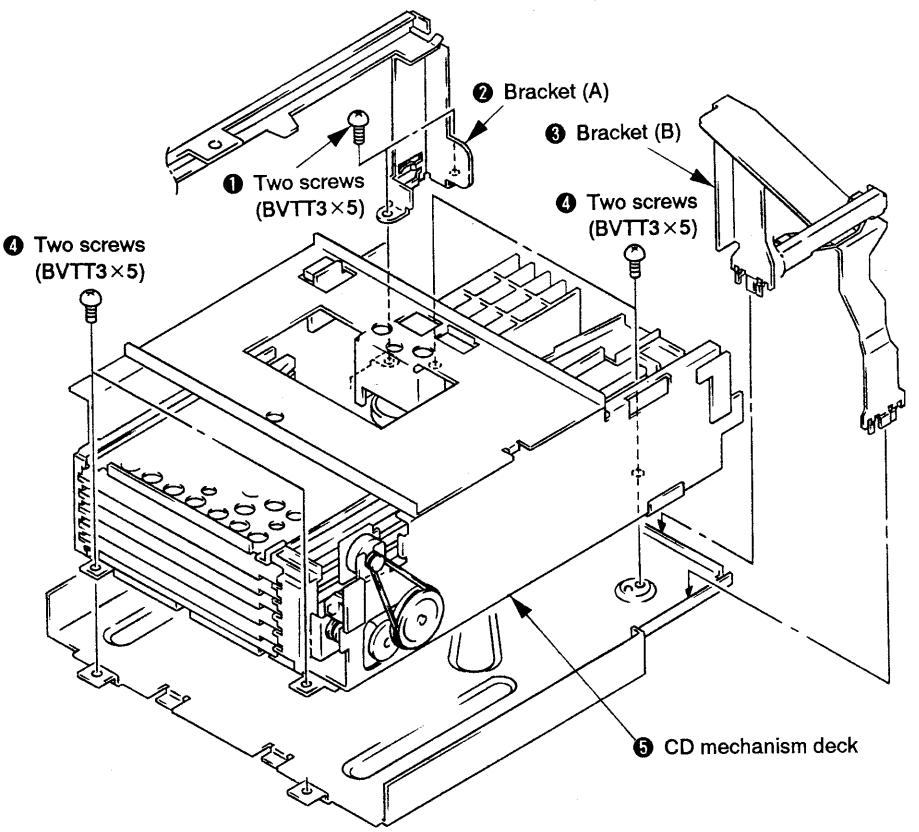
3-3. REMOVAL OF MAIN BOARD



3-4. REMOVAL OF FRONT PANEL ASSY



3-5. REMOVAL OF CD MECHANISM DECK



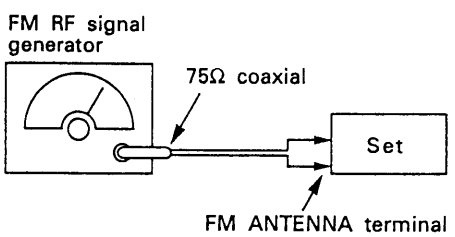
SECTION 4
ELECTRICAL ADJUSTMENTS

4-1. Tuner Section Adjustments

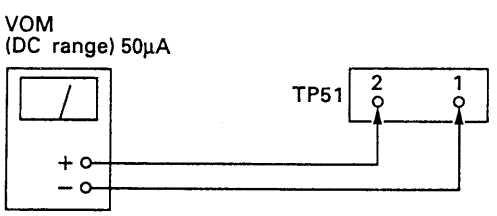
FM SECTION

Note : The FM front-end is carefully adjusted at the factory and is supplied as one whole block for replacement.

Setting :



Carrier frequency : 98MHz
Modulation : 1kHz, 75kHz deviation
Output level : 1mV (60dBμ)



FM Discriminator Alignment (NULL Check)

BAND switch: FM

Procedure:

1. Supply a 1mV (60dBμ) 98MHz signal from the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust IFT51 for 0Vdc reading on the VOM.

Note : FM tuned indication lighting level adjustment should be made after FM discriminator alignment.

FM Tuned Indication Lighting Level Adjustment

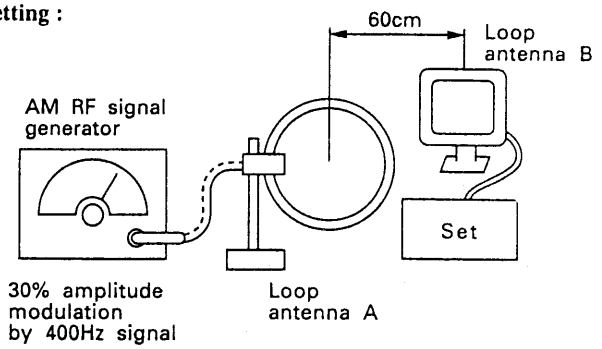
BAND switch: FM

Procedure:

1. Supply a 17.8μV (25dBμ) (Except C70: G, IT model) or 12.5μV (22dBμ) (C70: G, IT models) 98MHz signal from the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust RV52 so that the TUNED light up.
4. Confirm that the TUNED light off with FM RF SSG output level set at –3dB.

MW SECTION

Setting :



MW Tuned Indication Lighting Level Adjustment

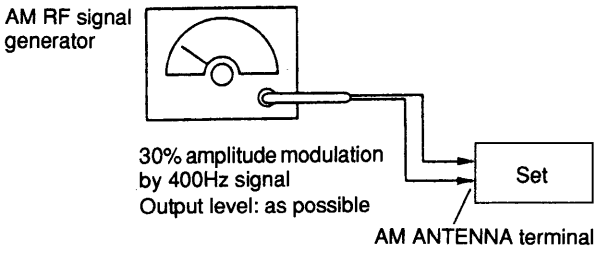
BAND switch: MW

Procedure:

1. Set loop antenna A so that the loop antenna B input level becomes 1mV (55dBμ).
2. Tune the set to 1,404kHz (9k step mode) (10k step mode : 1,490kHz).
3. Adjust the RV51 so that the TUNED light up.
4. Confirm that the TUNED light off with AM RF SG output level set at –3dB.

SW SECTION C70 : E, EA, AUS, SP, JE model

Setting :

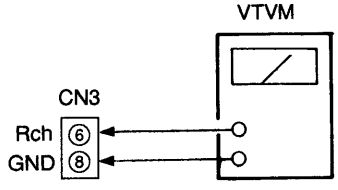


Note :

CND : Canadian model
G : German model
IT : Italian model
EA : Saudi Arabia model
AUS : Australian model
SP : Singapore model
JE : Tourist model

SW Tracking Adjustment

BAND switch: SW

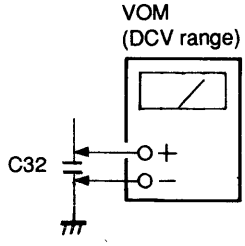


Adjust for maximum reading on VTVM.	
17MHz	CV1
7MHz	T1

Adjustment Location : TCB board.

SW OSC Voltage Adjustment

BAND switch: SW

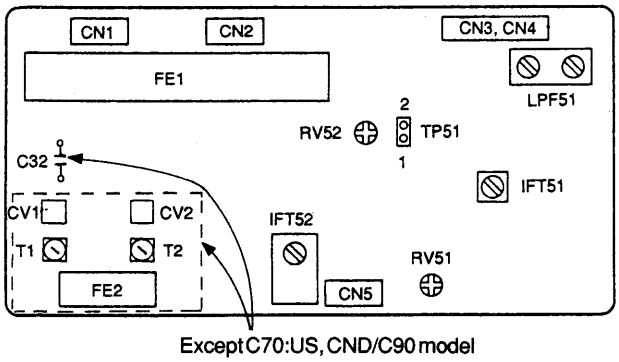


Procedure:

1. Press TUNING (+, –) button for 5.95MHz.
   Adjust T2 for 0.9–1.1V VOM reading.
2. Press the button for 17.9MHz.
   Adjust CV2 for 8.3–8.7V reading.

Adjustment Location : TCB011 board.

[TCB011 BOARD] — Component side —



Except C70:US, CND/C90 model

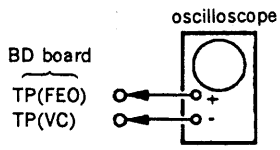
4-2. CD Section Adjustments

CD SECTION

Note :

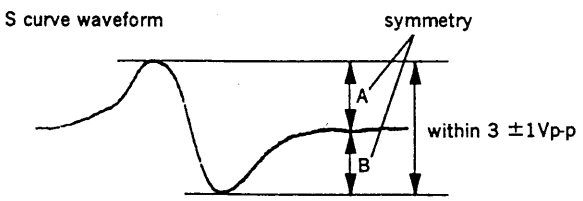
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check



Procedure :

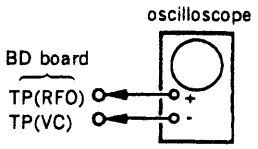
1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turn Power switch on. ·h.
4. Playback the disc (YEDS-18) and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
5. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.



6. After check, remove the lead wire connected in step 2.

Note : • Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

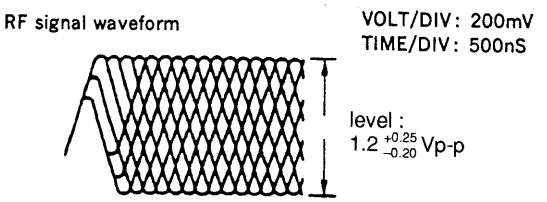


Procedure :

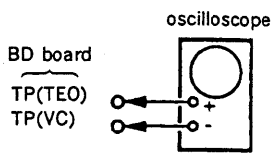
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

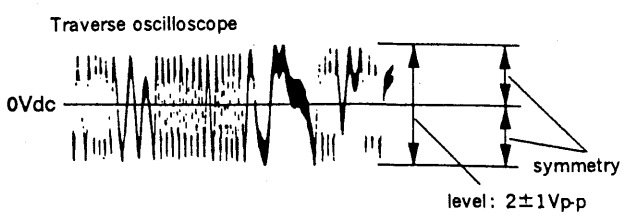


E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) on CD MAIN board to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0Vdc, and check this level.

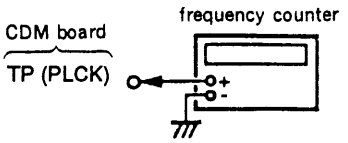


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PLCK : IC202 ㊶ PIN with lead wire.



2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

Focus/Tracking Gain

This gain has a margin, so even if it is slightly off.

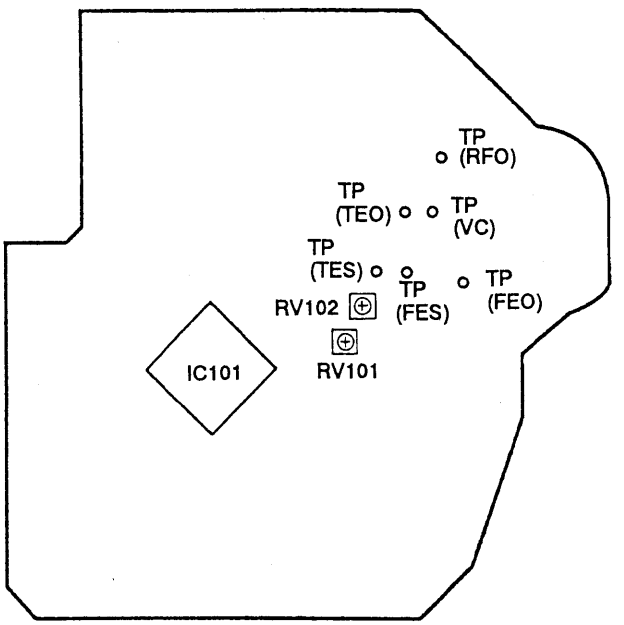
There is no problem.

Therefore, do not perform, this adjustment.

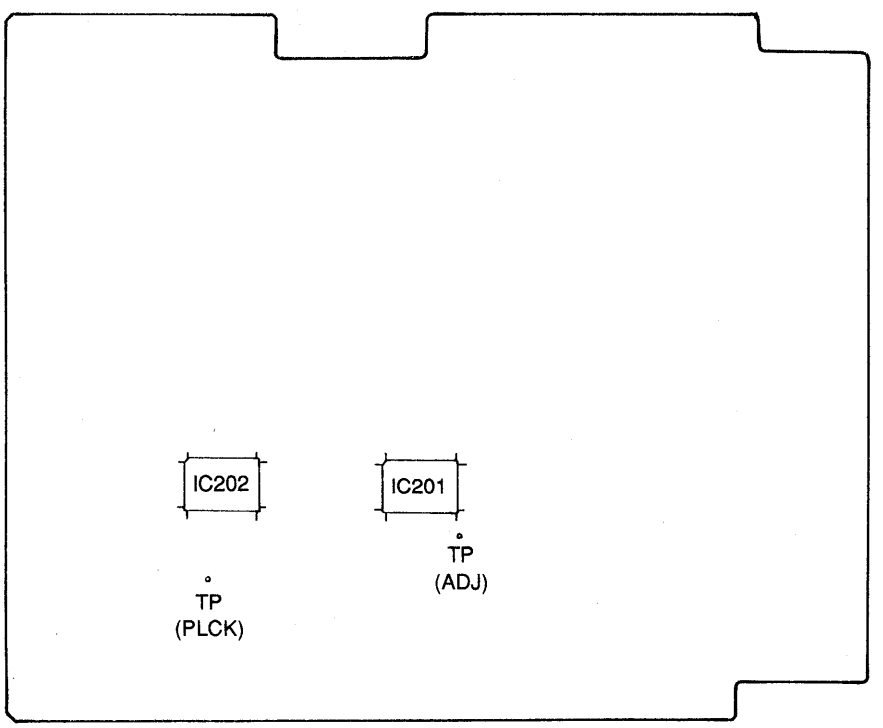
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Location:

[BD BOARD] — CONDUCTOR SIDE —



[CD MAIN BOARD] — CONDUCTOR SIDE —



SECTION 5
IC PIN FUNCTIONS

• IC701 TUNER/TIMER CONTROLLER (TMP87CC70F-6129)

The terminals work to control tuner section (IC21, 51), FL tube display and reading and writing of IC702 (preset data), etc. according to key input and signal from the remote controller.

Pin No.	Pin Name	I/O	Active	Function
1	HOLD	I	↓	HOLD detecting interrupt terminal
2	HOLD RESET	I	↑	HOLD resetting interrupt terminal
3				GND
4	IF NGOUT	O	H	IF count NG output (Not in use)
5	LED (TUNING)	O	H	TUNING LED ON
6	LED (PRESET)	O	H	PRESET LED ON
7	AUB IN	I	L	AUDIO BUS input
8	AUB OUT	O	L	AUDIO BUS output
9	TEST			GND
10	XT IN	I		Low frequency oscillator connection terminal (32kHz)
11	XT OUT	O		Low frequency oscillator connection terminal (32kHz)
12	RESET	I	L	Reset signal input
13	X IN	I		High frequency oscillator connection terminal (8MHz)
14	X OUT	O		High frequency oscillator connection terminal (8MHz)
15	VSS			GND
16				GND
17, 18				Not in use
19	SCK	O		PLL serial clock output
20	SI	I		PLL serial data input
21	SO	O		PLL serial data output
22				Not in use
23	CE	O	H	PLL chip enable
24				Not in use
25	FM/AM	O	L	TUNER (FM/AM) sound selection terminal
26	SUB SEL	O	L	Sub sound selection terminal (Not in use)
27	DUAL IND	I	L	Sound dual signal detection terminal (Not in use)
28	MONO			Not in use
29	MUTE OUT	O	L	MUTING output
30	SIGNAL IN	I	L	TUNED input
31	STEREO IN	I	L	STEREO input
32	SIRCS IN	I	L	SIRCS input
33	VDD			+5V
34 – 40		O		Not in use
41 – 49	G8 – G0	O	H	FL tube digit output
50 – 59	S0 – S9	O	H	FL tube segment output
60 – 65		O		Not in use
66	VKK			FL tube driving power supply
67 – 71	KI0 – KI4	I	H	Key input
72				Not in use
73, 74				Not in use
75 – 78	KO3 – KO0	O	H	Key output
79	SDA	I/O		Data input/output for EEPROM
80	SCL	O		Clock output for EEPROM

• IC601 CD MASTER CONTROLLER (75518GF-127-3B9)

This controller exchanges data with IC602 (CD FL driver) on the PANEL board and IC201 (CD mechanism controller) on the MAIN board. It has mainly feature related functions.

Pin No.	Pin Name	I/O	Function
1	KEY0	I	Key input port (A/D input)
2	AVREF	–	Reference voltage input pin of A/D converter (Connected to +5V)
3	VDD	–	+5V power supply
4	VDD	–	
5		O	Not used (Open)
6	DRIVER RESET	O	Reset signal output for CD FL driver (IC602)
7	ON/$\overline{OFF}$	O	+5V switch power supply (signal system) control "L"=OFF. "L" when ST function is on. "H" at other times.
8	Mecha-con RESET	O	Reset signal output for CD mechanism controller (IC201)
9		O	Not used (Open)
10	$\overline{CS}$	O	Latched output to CD FL driver (IC602)
11	AU BUS OUT	O	AU Bus output port
12	MREQ	O	Output of communication data read request to CD mechanism controller (IC201) (master request)
13	AU BUS/$\overline{SIRCS}$	I	AU Bus/SIRCS selection. AU Bus=Fixed at "H"
14	TEST	I	Test mode pin. TEST=Fixed at "H".
15	SUF. REP	I	Normally, SUF.REP=Fixed at "H". By setting this pin to "L", SHUFFLE, ALL-DISC, REP are possible.
16	D. SKIP	I	Sound field/$\overline{EDIT}$ (S332) function selection. Fixed at "H". "H": Sound field file. "L": Edit
17		I	Not used (Connected to +5V)
18		I	
19		I	
20		I	
21		I	
22		I	
23		I	
24	SACK	I	Input of communication ANSWER CODE from CD mechanism controller (IC201)
25		O	Not used (Open)
26		O	
27		O	
28		O	
29	P53	O	Disc indicator (LED) orange (DISC 4)
30	P52	O	Disc indicator (LED) orange (DISC 3)
31	P51	O	Disc indicator (LED) orange (DISC 2)
32	P50	O	Disc indicator (LED) orange (DISC 1)
33	Vss	–	GND
34	P43	O	Disc indicator (LED) green (DISC 4)
35	P42	O	Disc indicator (LED) green (DISC 3)
36	P41	O	Disc indicator (LED) green (DISC 2)
37	P40	O	Disc indicator (LED) green (DISC 1)
38	P33	O	Disc indicator (LED) orange (DISC 5)
39	P32	O	Disc indicator (LED) green (DISC 5)
40	A SELECT	O	Output of A SELECT signal to INPUT SELECTOR (IC105)

Pin No.	Pin Name	I/O	Function
41	M/$\overline{F}$	I/O	Signal indicating type of communication with CD mechanism controller (IC201) "H": Mechanism command "L": File command
42		O	Not used (Open)
43		O	
44		O	
45		O	
46		I	Not used (Connected to GND)
47		I	
48	OINT	I	Communication data read request (interruption request) signal from CD mechanism controller (IC201)
49	AU BUS IN	I	AU Bus input port (Interruption pin)
50		I	Not used (Connected to +5V)
51	DPDAT	O	Output of data to CD FL driver (IC602)
52	DPCK	O	Output of clock to CD FL driver (IC602)
53		I	Not used (Connected to GND)
54	Vss	–	GND
55	XT1		Not used (Connected to GND)
56	XT2		Not used (Open)
57	IC		Not used (Connected to GND)
58	X1	I	Pin connected for system clock (4.19 MHz) oscillator
59	X2	O	
60	$\overline{RESET}$	I	System reset input. "L": Reset
61		O	Not used (Open)
62		O	
63		O	
64		O	
65	P133	O	
66	P132	O	
67	P131	O	
68	P130	O	
69	CMD3	I/O	Command data line with CD mechanism controller (IC201)
70	CMD2	I/O	
71	CMD1	I/O	
72	CMD0	I/O	
73	AVss	–	GND
74		I	Not used (Connected to GND)
75		I	
76		I	
77		I	
78	KEY3	I	Key input port (A/D input)
79	KEY2	I	
80	KEY1	I	

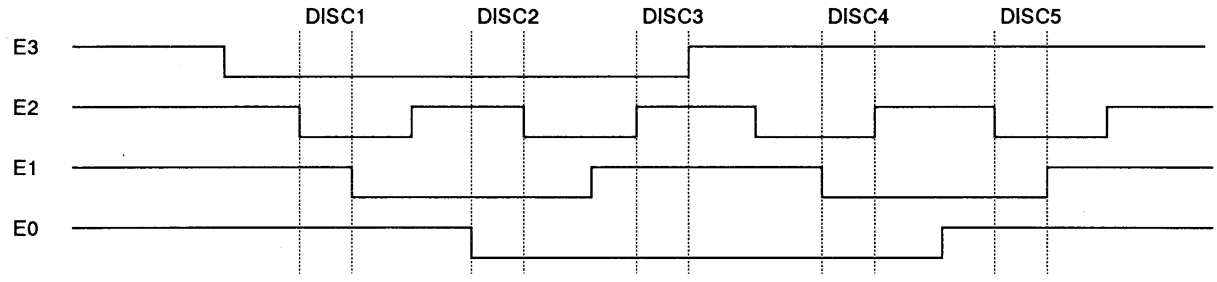
• IC201 CD MECHANISM CONTROLLER (μPD75516GF-431-3B9)

This controller exchanges data with CXA1372AQ (RF signal processor, servo processor), CXD2500BQ (digital signal processor), MSM6538 (digital filter), 75518GF (CD master controller) of the CD section. It mainly controls the mechanism section.

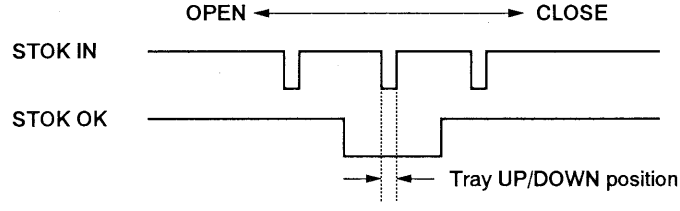
Pin No.	Pin Name	I/O	Function
1			Open
2	AVDD		+5V power supply
3	VDD		
4	VDD		
5	ENCODER E3	I	Stocker position detection decoder input 3 *1
6	ENCODER E2	I	Stocker position detection decoder input 2 *1
7	ENCODER E1	I	Stocker position detection decoder input 1 *1
8	ENCODER E0	I	Stocker position detection decoder input 0 *1
9	D7	I/O	Input/output of data written in and read from SRAM (LH5160TA)
10	D6	I/O	
11	D5	I/O	
12	D4	I/O	
13	D3	I/O	
14	D2	I/O	
15	D1	I/O	
16	D0	I/O	
17	GFS	I	Input of GFS signal from digital signal processor (CXD2500BQ) L: NG. H: OK
18	SENSE	I	Input of SENS signal from digital signal processor (CXD2500BQ)
19	DOWN SW	I	Input of down of up/down switch
20	UP SW	I	Input of up of up/down switch
21	A11	O	Output of address to SRAM (LH5160TA)
22	A10	O	
23	A9	O	
24	A8	O	
25		I	Not used
26	LD ON	O	Optical pickup block laser diode control output H: ON. L: OFF
27	WE	O	Output of write enable to SRAM
28	A12	O	Output of address to SRAM (LH5160TA)
29	A7	O	
30	A6	O	
31	A5	O	
32	A4	O	
33	GND		GND
34	A3	O	Output of address to SRAM (LH5160TA)
35	A2	O	
36	A1	O	
37	A0	O	
38	QINT	O	Output of communication data read request to CD master controller (75518GF)
39	M/F	I	Signal indicating type of communication data from CD master controller (75518GF) H: Mechanism command. L: File command
40	SACK	O	Output of communication answer code to CD master controller (75518GF)

Pin No.	Pin Name	I/O	Function
41	MREQ	I	Input of communication data read request from CD master controller (75518GF) (master request)
42	CMD3	I/O	Input/output of data 3 of communication with CD master controller (75518GF)
43	CMD2	I/O	Input/output of data 2 of communication with CD master controller (75518GF)
44	CMD1	I/O	Input/output of data 1 of communication with CD master controller (75518GF)
45	CMD0	I/O	Input/output of data 0 of communication with CD master controller (75518GF)
46	CHIN	I	Input of track jump count from RF/servo IC (CXA1372AQ)
47	FOK	I	Input of focus OK signal from RF/servo IC (CXA1372AQ). H: OK
48	SCOR	I	Input of sub code sync S0+S1 detection from digital signal processor (CXD2500BQ)
49	STOCK IN	I	Input of tray position (STOCK IN) detection *2
50	SUBQ	I	Input of sub code Q data from digital signal processor (CXD2500BQ)
51	GND		GND
52	SQCK	O	Output of sub code Q data read clock to digital signal processor (CXD2500BQ)
53	ADJ	I	Test mode input. Fixed at level H (Test mode is set when set to level L)
54	GND		GND
55	XT1	I	Not used (Connected to GND)
56	XT2	O	Not used (Open)
57	GND		GND
58	X1	I	Pin connected for system clock (4.19 MHz) oscillator
59	X2	O	
60	RESET	I	Input of reset from CD master controller (75518GF). L: Reset
61	D/F LATCH	O	Output of serial data latch signal to digital filter (MSM6538)
62	DSP LATCH	O	Output of serial data latch signal to digital signal processor (CXD2500BQ)
63	CLK	O	Output of serial clock to digital signal processor (CXD2500BQ) and digital filter (MSM6538)
64	DATA	O	Output of serial data to digital signal processor (CXD2500BQ) and digital filter (MSM6538)
65	DFCTSW	O	RF/servo IC (CXA1372AQ) DEFECT circuit ON/OFF control output. L: ON. H: OFF Stops disc scratch detection during focus search (Set to H)
66	MUTE	O	CD audio output mute signal. H: Mute
67	CLAMP M3M	O	Clamp motor control signal *3
68	CLAMP M3P	O	
69	UP/DOWN M2M	O	Stocker motor control signal *4
70	UP/DOWN M2P	O	
71	LOADING M1M	O	Loading motor control signal *5
72	LOADING M1P	O	
73	A GND		GND
74	STOK OK	I	Tray position detection input. L: Stocker UP/DOWN possible position *2
75	DISC SENS	I	Disc sensor input. H: Disc present. L: No disc
76	DISC TABLE IN SW	I	Loading-in switch input
77	DISC TABLE OUT SW	I	Loading-out switch input
78	TEST	I	Test mode input. Fixed at level H. (Test mode is set when set to level L)
79	AF ADJ	I	Test mode input. Fixed at level H. (Test mode is set when set to level L)
80			Not used (Open)

*1



*2



*3

	UP	DOWN	BRAKE
CLAMP M3P	H	L	H
CLAMP M3M	L	H	H

*4

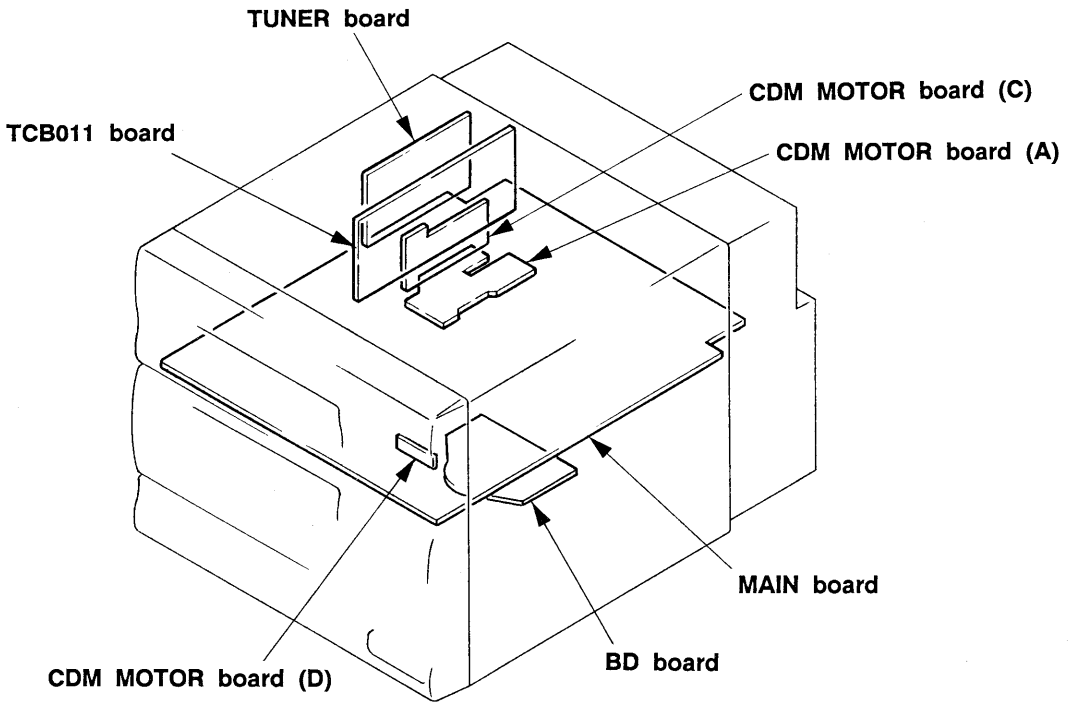
	UP	DOWN	BRAKE
UP/DOWN M2P	H	L	H
UP/DOWN M2M	L	H	H

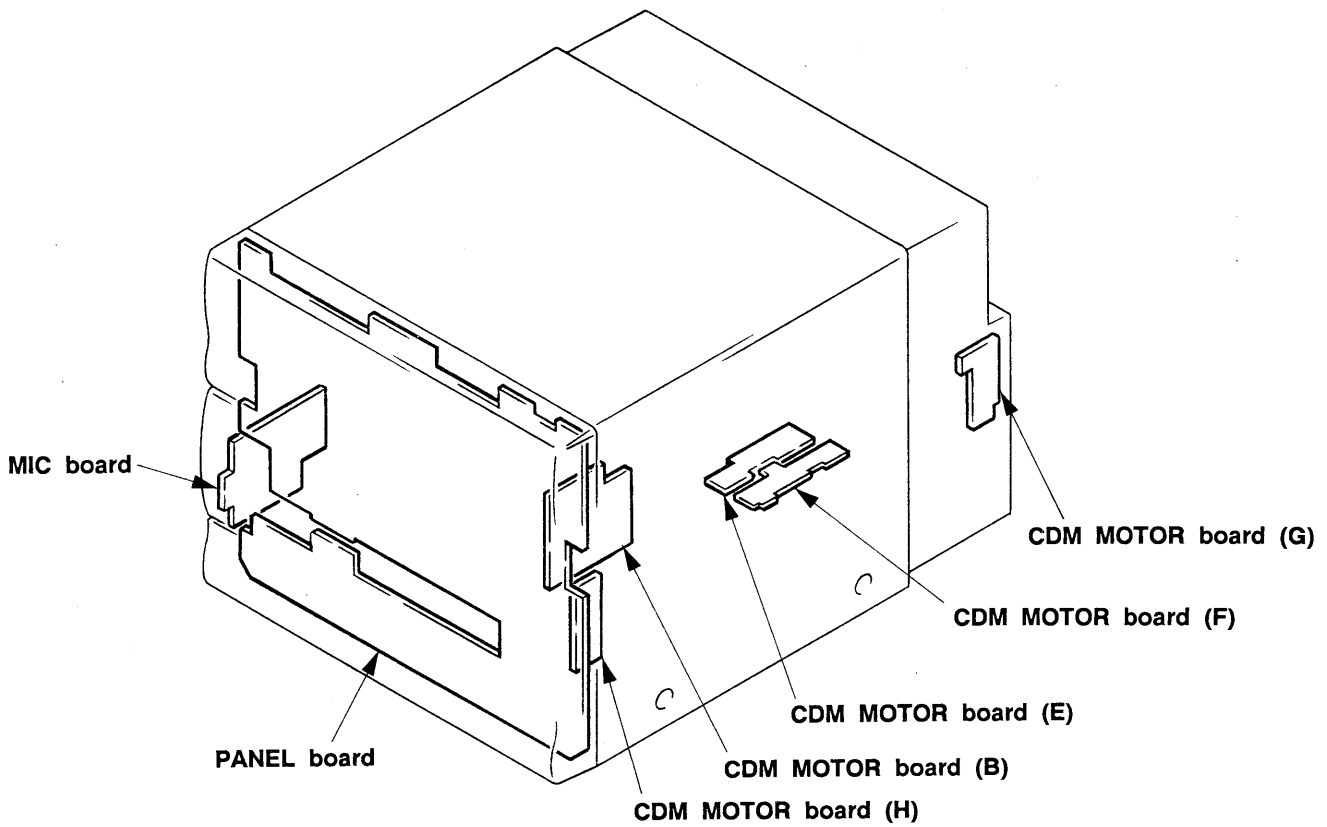
*5

	OUT	IN	BRAKE
LOADING M1P	H	L	H
LOADING M1M	L	H	H

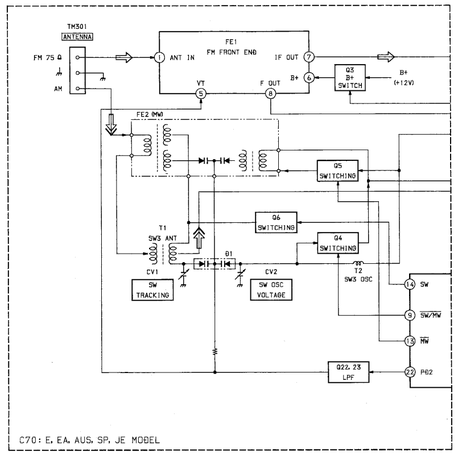
SECTION 6
DIAGRAMS

6-1. CIRCUIT BOARDS LOCATION

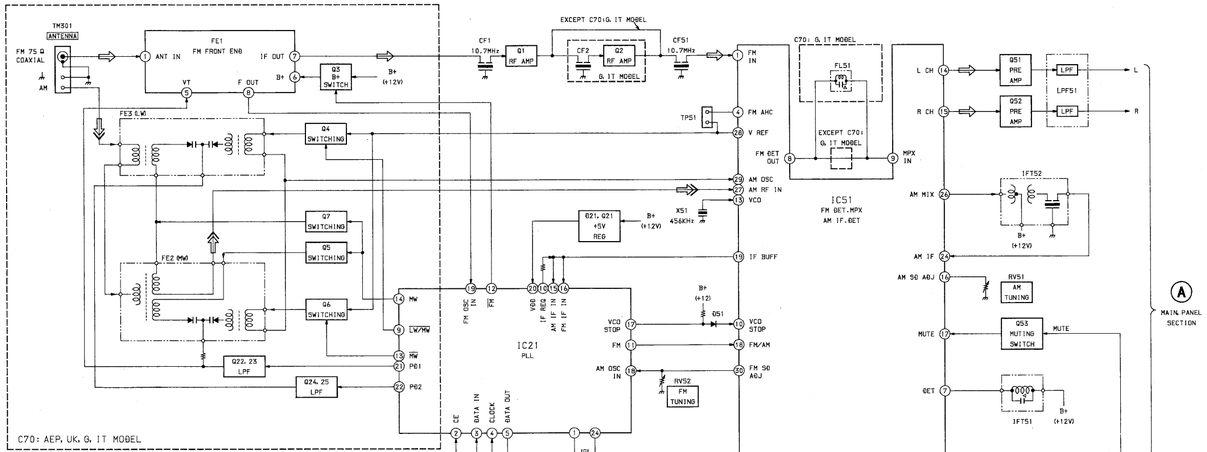


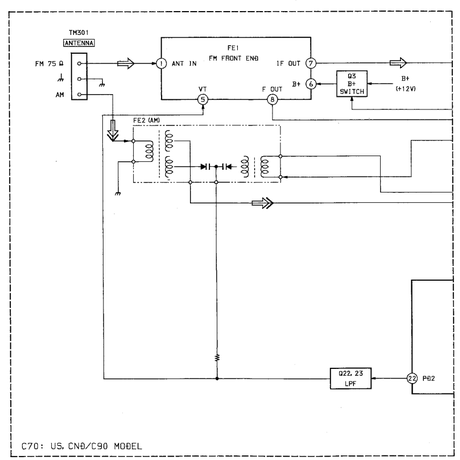


6-2. BLOCK DIAGRAM —TUNER SECTION —



C70: E, EA, AUS, SP, JE MODEL





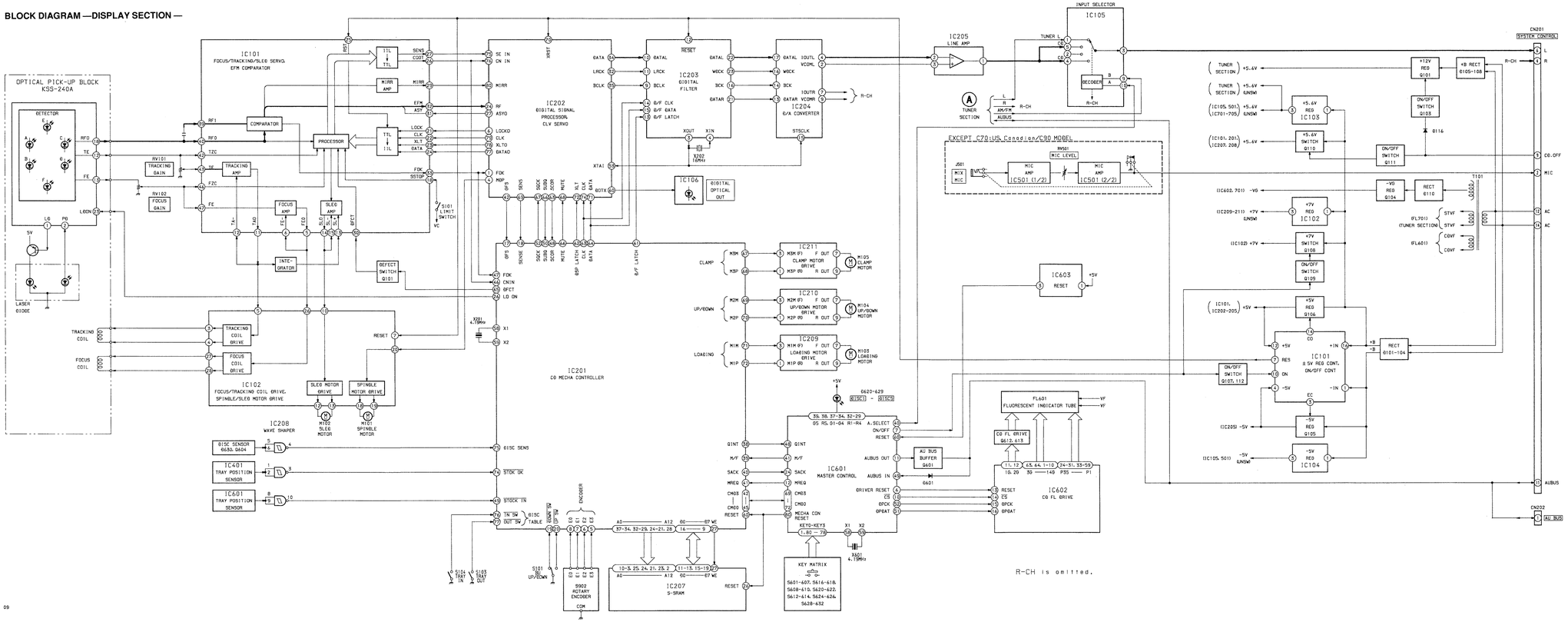
C70: US, CND/C90 MODEL

09

・Abbrevation
CND: Canadian model
G: German model
IT: Italian model
EA: Saudi Arabia model
SP: Singapore model
AUS: Australian model
JE: Tourist model

Signal path
: FM
: MW

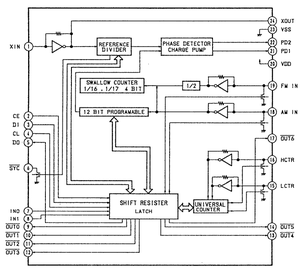
6-3. BLOCK DIAGRAM —DISPLAY SECTION —



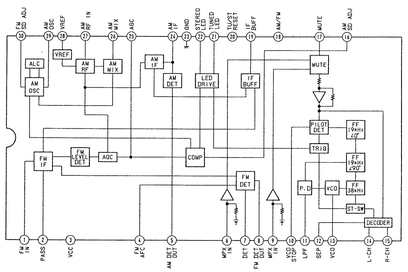
09

• IC BLOCK DIAGRAMS

IC21 LC7218M



IC51 LA1851NM

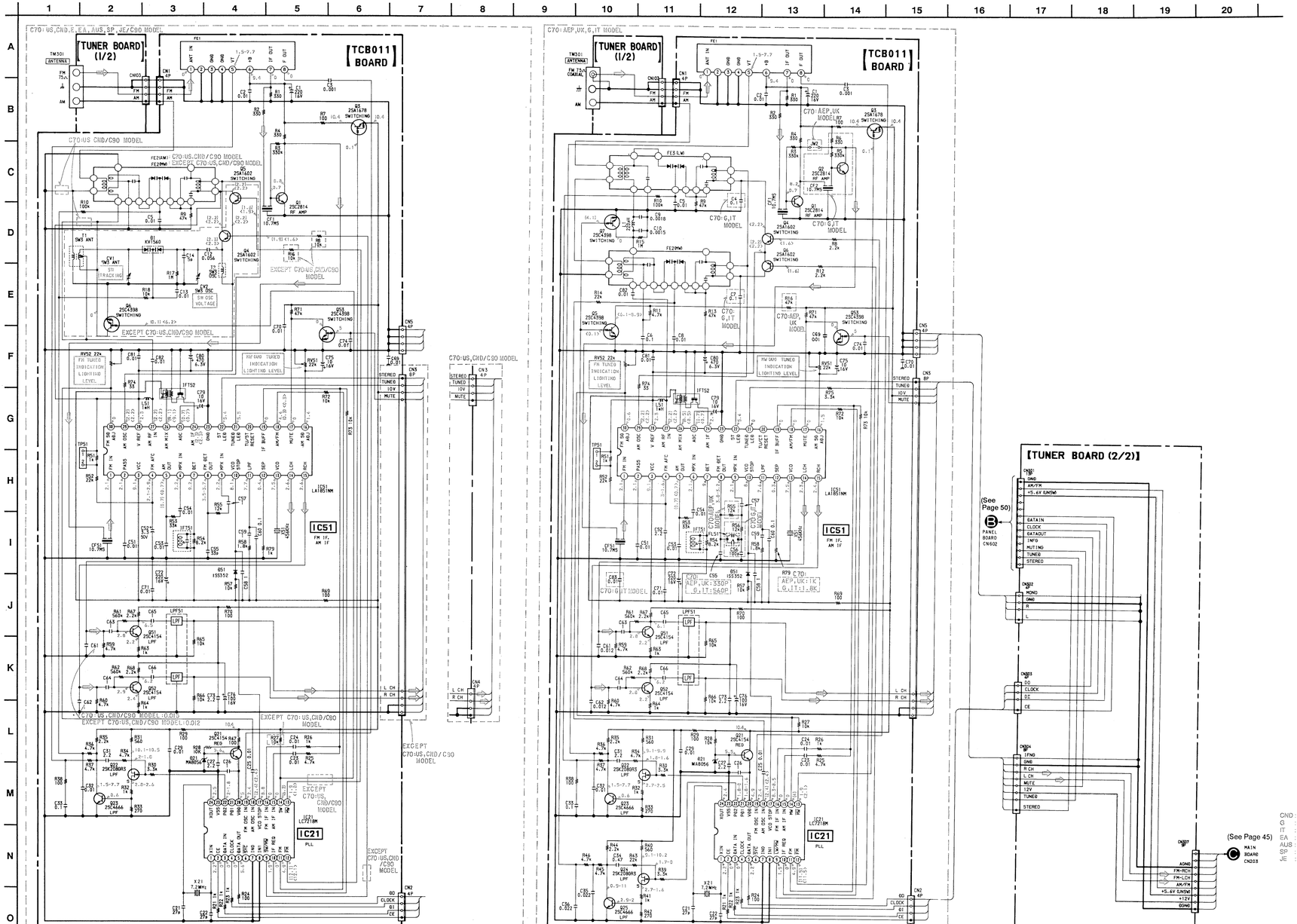


Note:

- All capacitors are in μF unless otherwise noted. pF:μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.

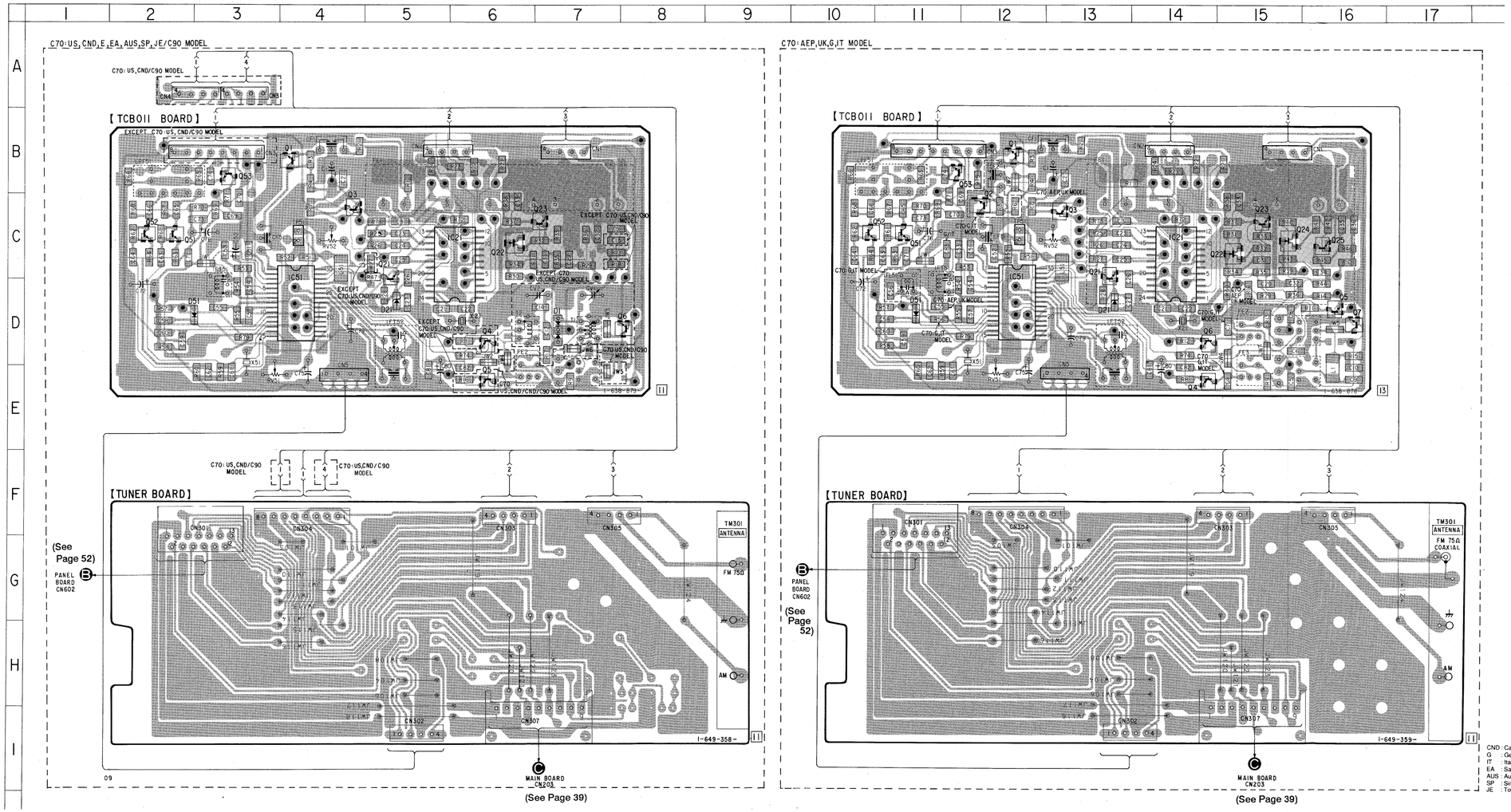
- ▭▭▭ : B+ Line
- ▭▭▭ : B− Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM

6-4. SCHEMATIC DIAGRAM
• TUNER SECTION



6-5. PRINTED WIRING BOARD

- TUNER SECTION
- See page 23 for Circuit Boards Location and see page 53, 54 for Semiconductor Lead Layouts.



- Semiconductor Location
- C70:US,CND,E,EA, AUS,SP,JE/C90 MODEL

Ref. No.	Location
D1	D-7
D21	D-5
D51	D-2
IC21	C-6
IC51	C-4
Q1	B-4
Q3	C-4
Q4	D-6
Q5	E-6
Q6	D-8
Q21	C-5
Q22	C-6
Q23	C-7
Q51	C-2
Q52	C-2
Q53	B-3

- Semiconductor Location
- C70:AEP, UK, G, IT MODEL

Ref. No.	Location
D21	D-13
D51	D-11
IC21	C-14
IC51	C-12
Q1	B-12
Q2	C-12
Q3	C-13
Q4	E-14
Q5	D-16
Q6	D-14
Q7	D-16
Q21	C-13
Q22	C-15
Q23	C-15
Q24	C-15
Q25	C-16
Q51	C-11
Q52	C-10
Q53	B-11

Notes on printed wiring baords:

- ○—— : parts extracted from the components side.
- △ : internal component.
- ▭ : panel designation.
- ● : Through hole.
- ⋰⋱ : Pattern on the side which is seen.
- ⋰⋱ : Pattern of the rear side.

CND : Canadian model
G : German model
IT : Italian model
EA : Saudi Arabia model
AUS : Australian model
SP : Singapore model
JE : Tourist model

6-6. PRINTED WIRING BOARD

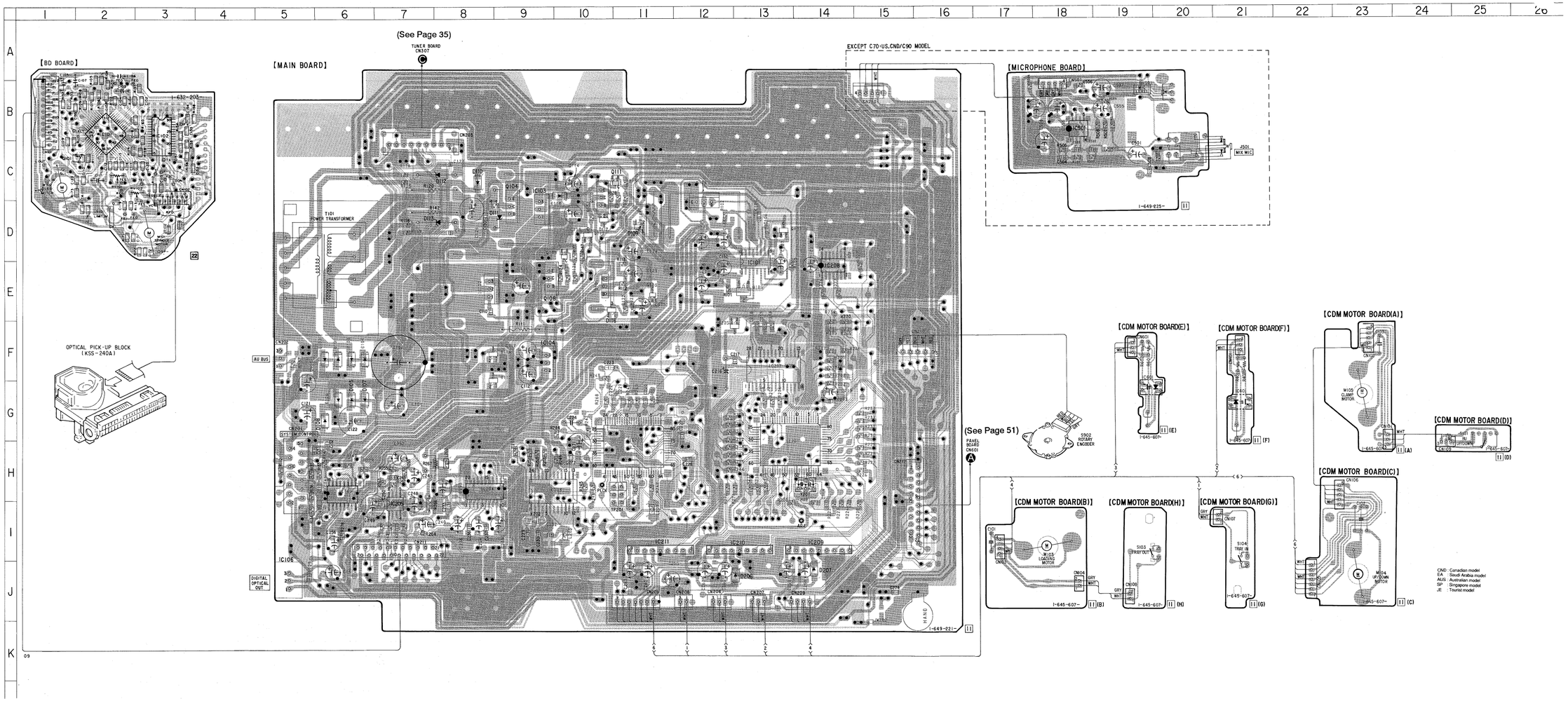
- **MAIN SECTION**
- **See page 23 for Circuit Boards Location and see page 53, 54 for Semiconductor Lead Layouts.**

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D101	F-6	Q101	E-10
D102	F-6	Q101(BD)	C-1
D103	F-6	Q103	E-11
D104	F-6	Q104	C-9
D105	G-6	Q105	E-13
D106	G-6	Q106	C-12
D107	G-6	Q107	D-13
D108	G-6	Q108	E-9
D109	D-11	Q109	D-10
D110	C-8	Q110	C-10
D111	D-8	Q111	C-11
D112	C-8	Q112	D-10
D113	D-7		
D114	F-9		
D115	F-9		
D116	E-10		
D117	D-10		
D118	D-10		
D205	F-12		
D206	J-13		
D207	J-14		
IC101(BD)	B-2		
IC101	E-13		
IC102(BD)	B-3		
IC102	E-8		
IC103	C-9		
IC104	H-9		
IC105	H-6		
IC106	J-5		
IC201	H-13		
IC202	H-11		
IC203	H-9		
IC204	H-8		
IC205	I-7		
IC207	F-13		
IC208	E-14		
IC209	I-14		
IC210	I-13		
IC211	I-11		
IC401	G-21		
IC501	B-18		
IC601	G-19		

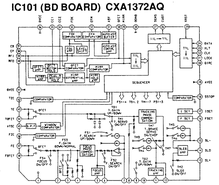
Note:

- ○—— : parts extracted from the components side.
- △ : internal component.
- ▭ : panel designation.
- ● : Through hole.
- ⁘ : Pattern on the side which is seen.
- ⁘ : Pattern on the rear side.

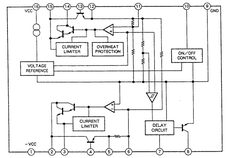


• IC BLOCK DIAGRAMS

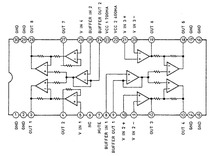
IC101 (BD BOARD) CXA1372AQ



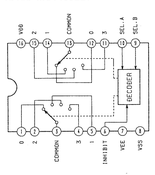
IC101 (MAIN BOARD) M5290FP



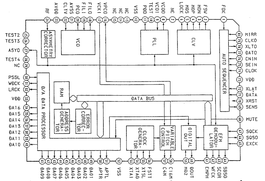
IC102 LA6532M



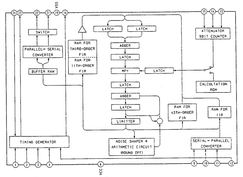
IC105 MC14052BF



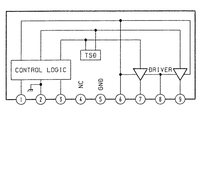
IC202 CXD2500BQ



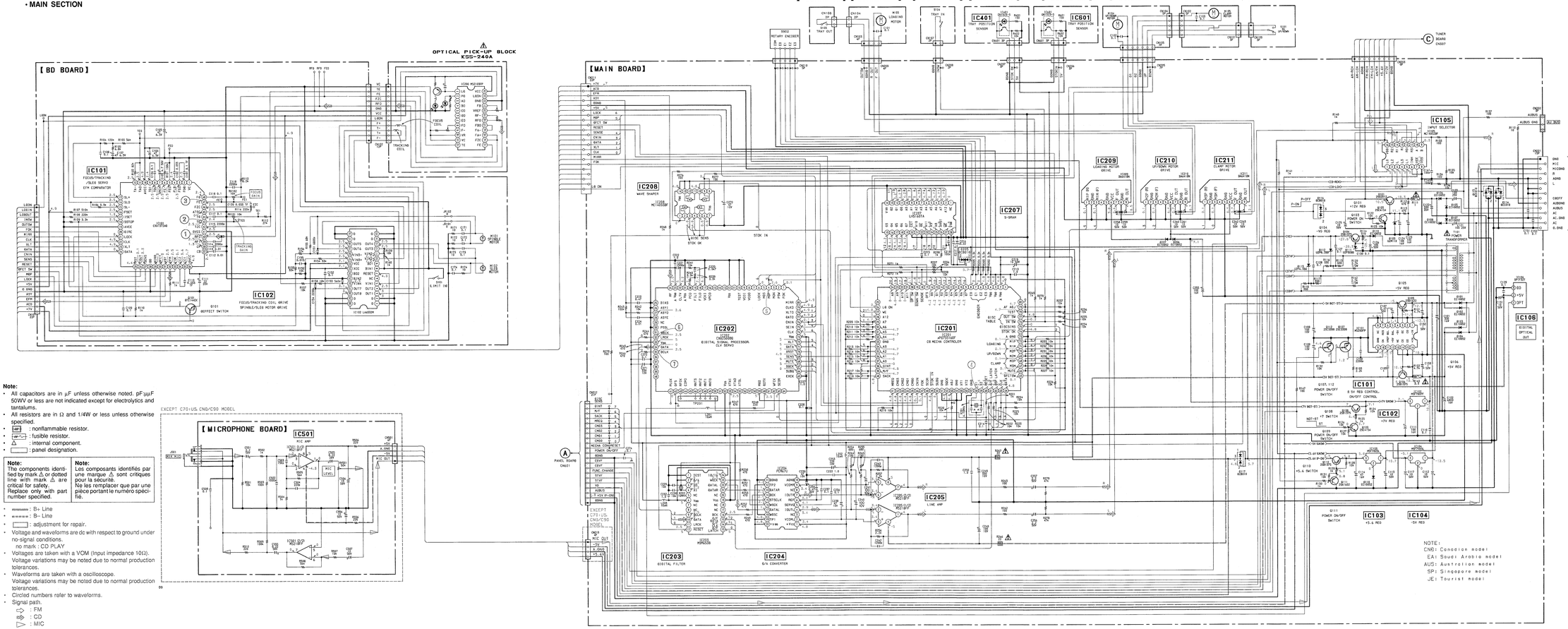
IC203 MSM6538



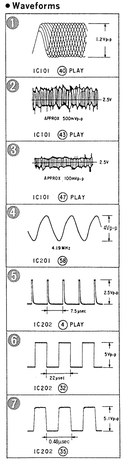
IC209, 210, 211 BA6418N



6-7. SCHEMATIC DIAGRAM
• MAIN SECTION



• Waveforms

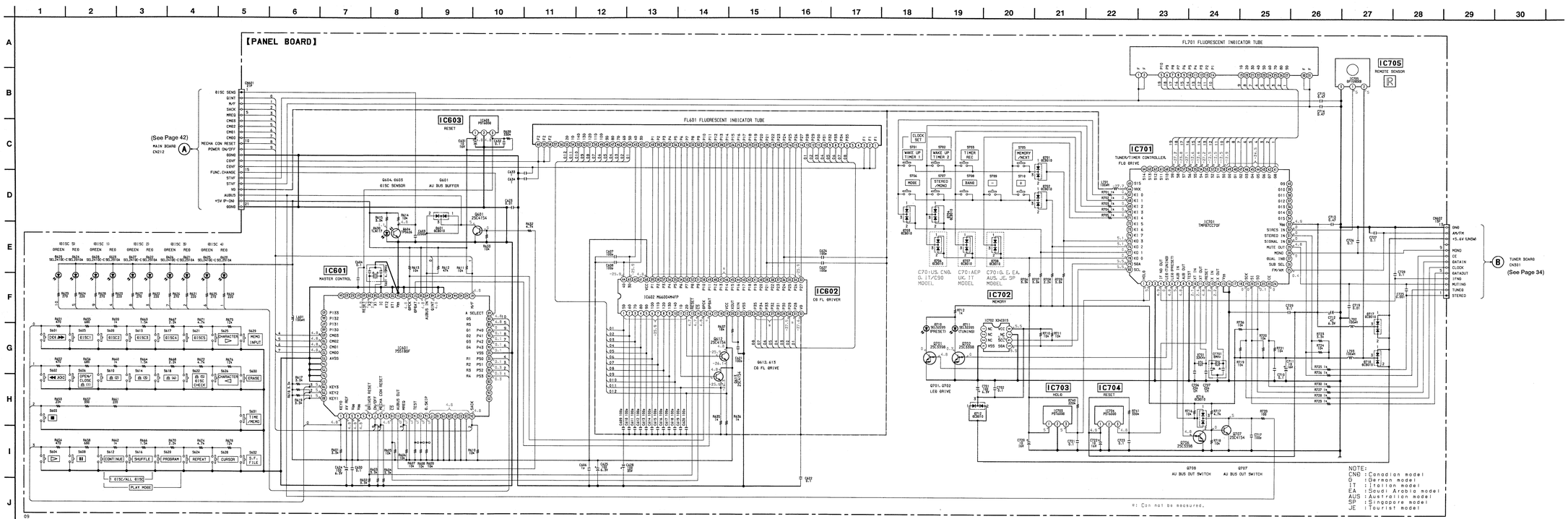


Note:
- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- : B+ Line
- : B- Line
- : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD PLAY
- Voltages are taken with a VOM (Input impedance 10Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : FM
  : CD
  : MIC

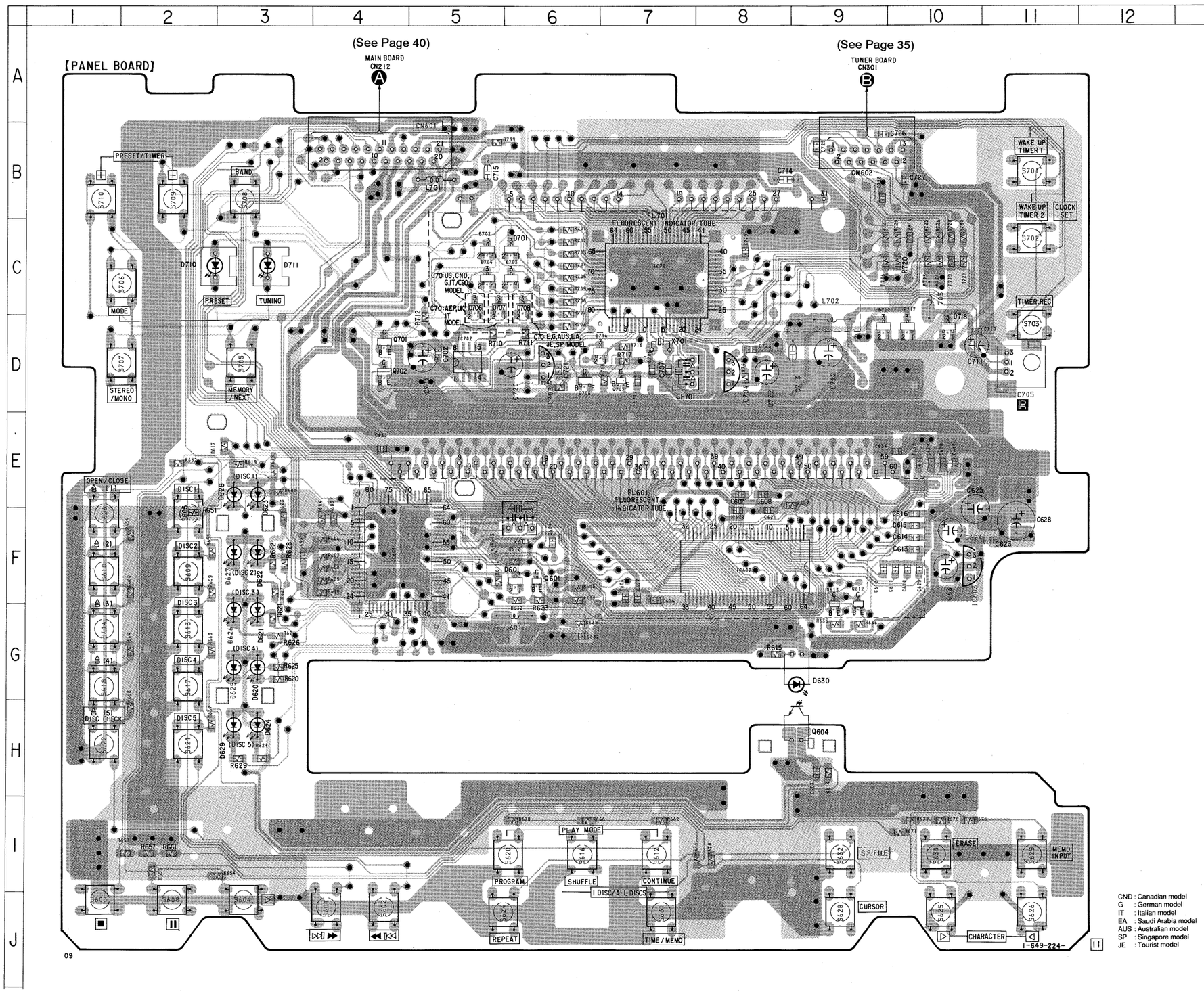
6-8. SCHEMATIC DIAGRAM
• PANEL SECTION



Note:
- All capacitors are in µF unless otherwise noted. pF:µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- ▬▬ : B+ Line
- ▬▬ : B− Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : FM
- Voltages are taken with a VOM (input impedance 10kΩ). Voltage variations may be noted due to normal production tolerances.

6-9. PRINTED WIRING BOARD

- **PANEL SECTION**
- **See page 23 for Circuit Boards Location and see page 53, 54 for Semiconductor Lead Layouts.**



CND : Canadian model
G : German model
IT : Italian model
EA : Saudi Arabia model
AUS : Australian model
SP : Singapore model
JE : Tourist model

• Semiconductor Location

Ref. No.	Location
D601	F-6
D620	G-3
D621	G-3
D622	F-3
D623	E-3
D624	H-3
D625	G-3
D626	G-3
D627	F-3
D628	E-3
D629	H-3
D630	G-9
D701	C-6
D702	C-5
D703	C-6
D704	C-5
D706	C-5
D707	C-5
D708	C-6
D710	C-2
D711	C-3
D712	D-9
D716	D-7
D717	D-10
D718	D-10
IC601	F-4
IC602	F-8
IC603	F-10
IC701	C-7
IC702	D-5
IC703	D-6
IC704	D-8
IC705	D-11
Q601	F-6
Q604	H-9
Q612	F-9
Q613	F-9
Q701	D-4
Q702	D-4
Q706	D-6
Q707	D-7

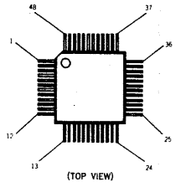
Note:

- ○—— : parts extracted from the components side.
- △ : internal component.
- ▭ : panel designation
- ● : Through hole.
- ⁘ : Pattern on the side which is seen.
- ⁘ : Pattern of the rear side.

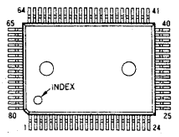
6-10. SEMICONDUCTOR LEAD LAYOUTS

BA6418N

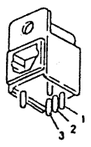
CXA1372AQ



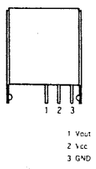
CXD2500BQ
TMP87CC70F-6129
μPD75516GF-461-3B9



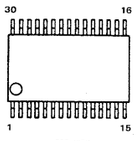
GP1F32T



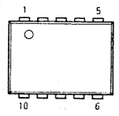
GP1U90XB



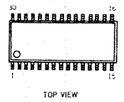
LA1851NM



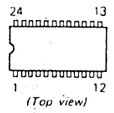
LA5601



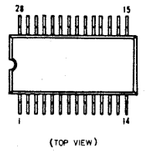
LA6532M



LC7218M

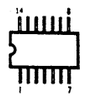


LH5160N-10L

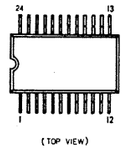


MC14052BF

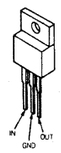
MC14093BF



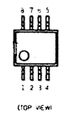
MSM6538-01GS-VKR1



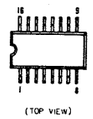
M5F78M07L
TA7805S



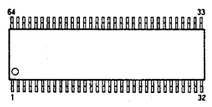
M5218FP
M5218AFP



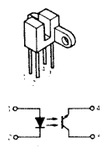
M5290FP



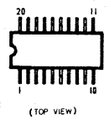
M66004M4FP



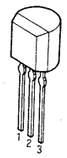
ON1023-S



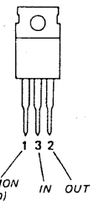
PCM-67U-B



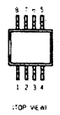
PST600D-T
PST600G-T



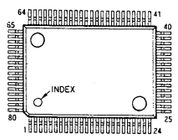
TA79005S



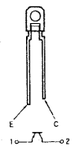
X24C01S



75518GF-127-3B9

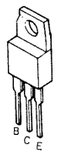


TPS626



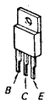
2SA1678
2SA1602-F
2SC2814-F4
2SC3398
2SC4154-F
2SC4398
2SC4666B
DTC144EK

2SB1094-LK
2SB1375-LC



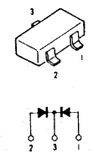
2SD1615A-GP

2SD2012

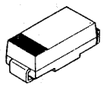


2SK208GR3

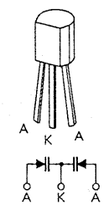
DCB010



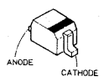
EC10DS2



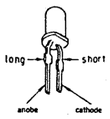
KV1560NT



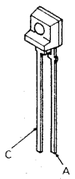
MA8056
1SS352



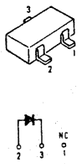
SEL2410E-C-TP6
SEL5220S-TH8C



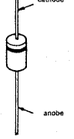
TLN117



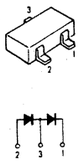
UZM11X



UZP-30BB
UZP-4.3BA
UZP-8.2BB



1SS226



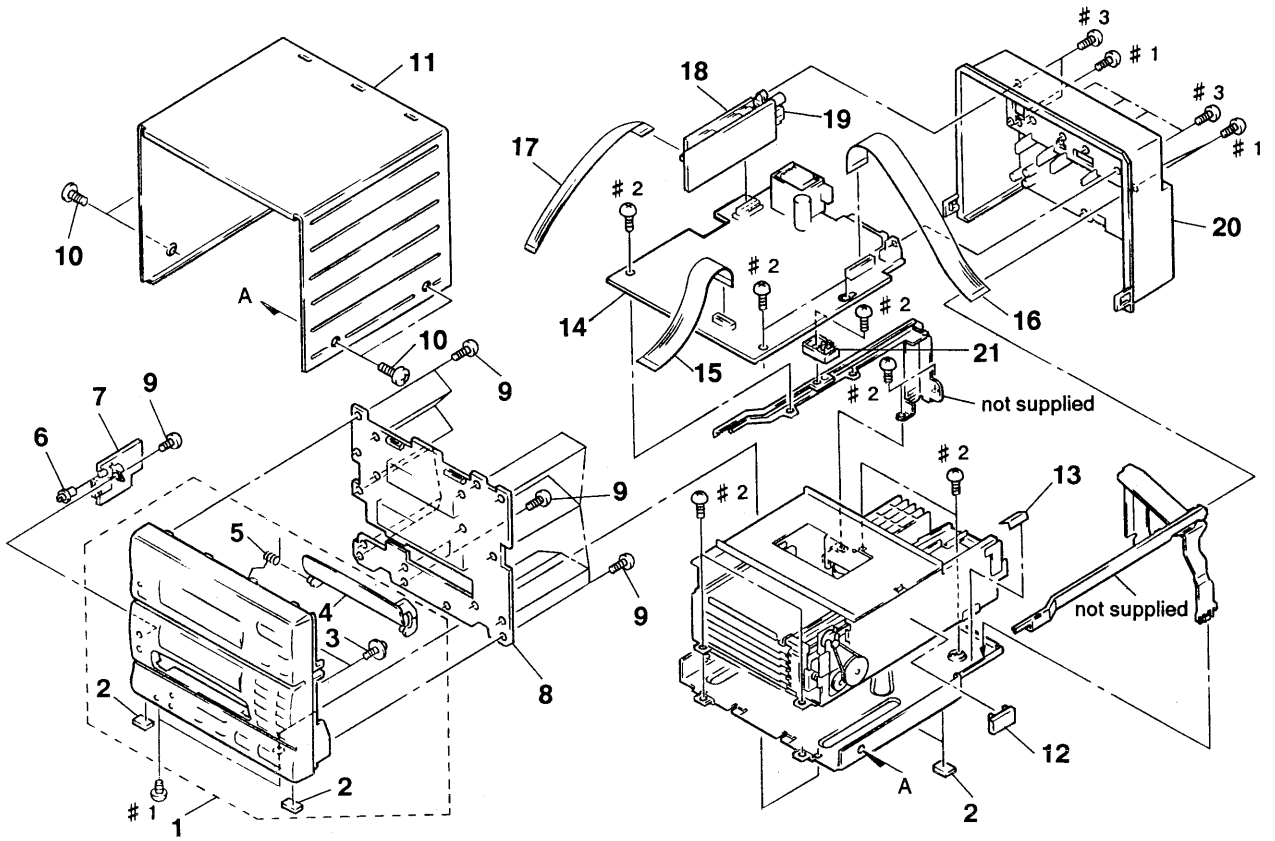
SECTION 7
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts color Cabinet's color
- Hardware (# mark) list is given in the last of this parts list.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- CND : Canadian model
- G : German model
- IT : Italian model
- JE : Tourist model
- EA : Saudi Arabia model
- AUS : Australian model
- SP : Singapore model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

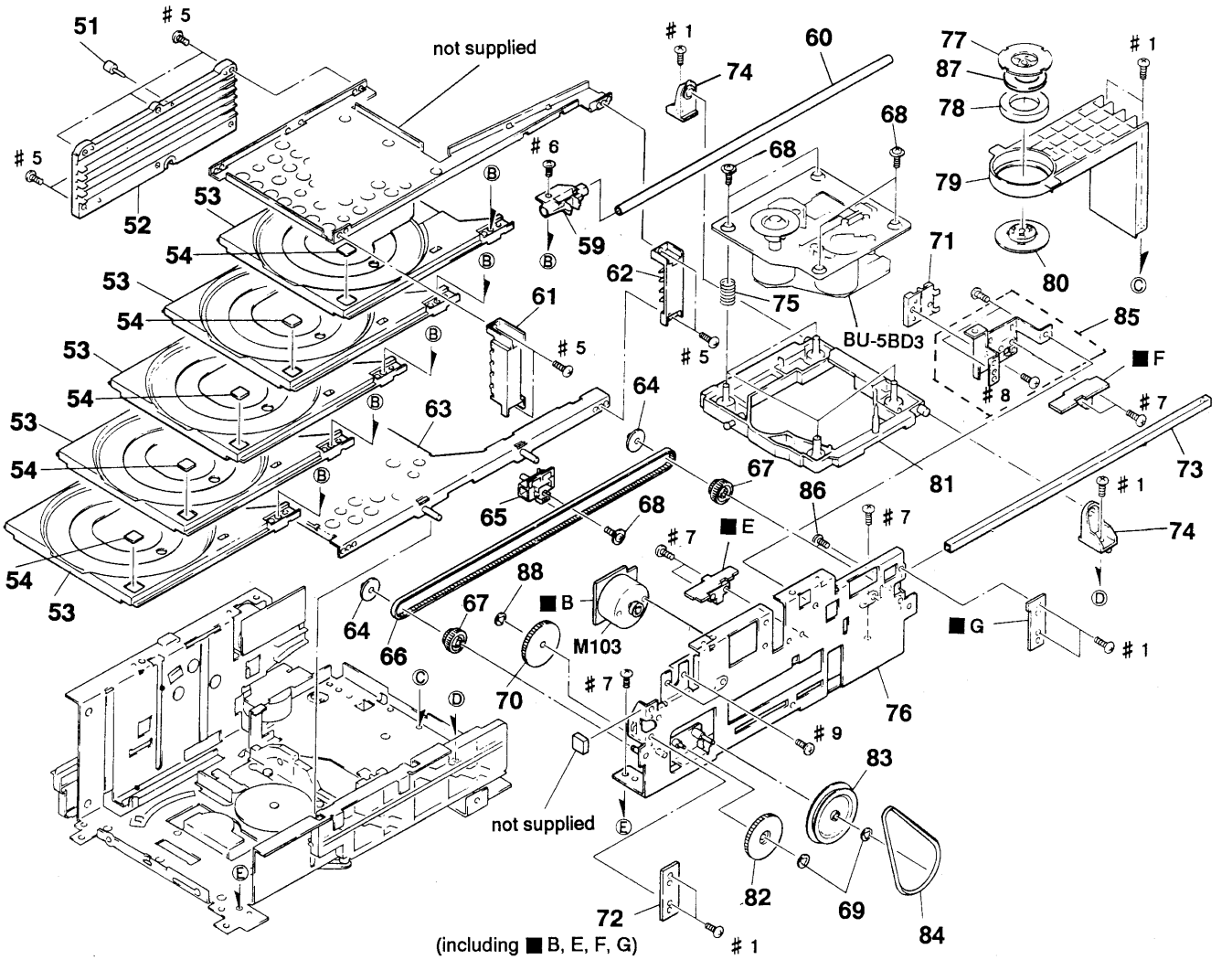
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

7-1. CASE, BOARD SECTION



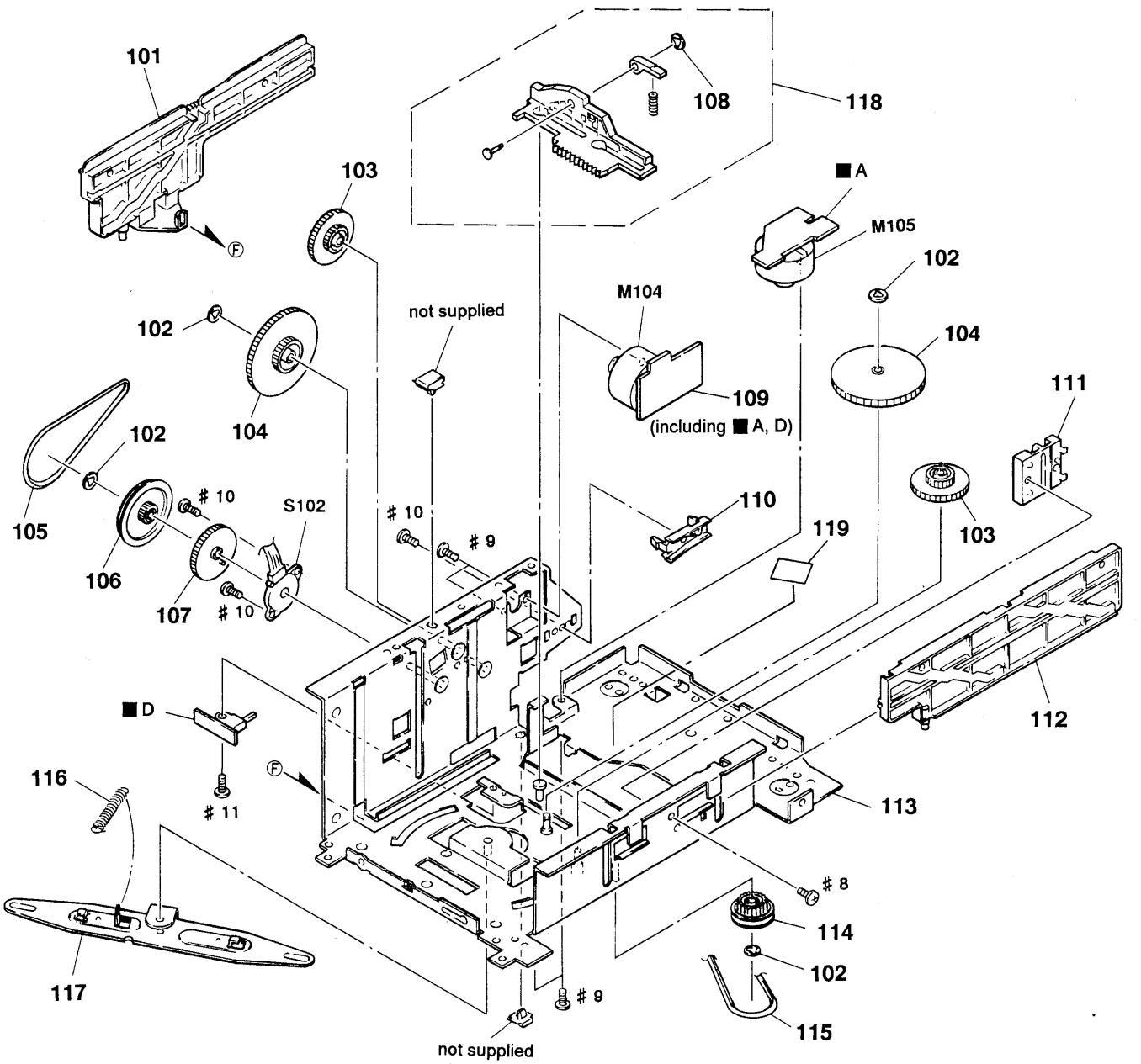
Ref. No.	Part No.	Description	Remark
1	X-4943-907-1	PANEL ASSY, FRONT (C70:US, CND)	
1	X-4943-908-1	PANEL ASSY, FRONT (C70:E, AUS, EA, SP, JE)	
1	X-4943-910-1	PANEL ASSY, FRONT (C90)	
1	X-4943-927-1	PANEL ASSY, FRONT (C70:AEP, UK, G, IT)	
2	4-930-336-31	FOOT (FELT)	
3	4-933-134-01	SCREW (+PTPWH M2.6X6)	
4	4-959-206-01	LID (LOADING)	
5	4-959-207-01	SPRING (CLOSE)	
6	4-932-882-11	KNOB (HP. VOL) (C70:AEP, UK, E, AUS, G, IT, EA, SP, JE)	
* 7	1-649-225-11	MICROPHONE BOARD (C70:AEP, UK, E, AUS, G, IT, EA, SP, JE)	
* 8	A-4365-203-A	PANEL BOARD, COMPLETE (C70:US, CND/C90)	
* 8	A-4365-204-A	PANEL BOARD, COMPLETE (C70:AEP, UK)	
* 8	A-4365-205-A	PANEL BOARD, COMPLETE (C70:E, AUS, EA, SP, JE)	
* 8	A-4365-206-A	PANEL BOARD, COMPLETE (C70:IT)	
* 8	A-4365-210-A	PANEL BOARD, COMPLETE (C70:G)	
9	4-951-620-01	SCREW (2.6X8), +BVTP	
10	3-363-099-01	SCREW (CASE 3 TP2)	
* 11	4-960-313-61	CASE	
* 12	4-962-178-01	HOLDER (FLEXIBLE)	
13	3-831-441-XX	CUSHION, SPEAKER	
* 14	A-4365-193-A	MAIN BOARD, COMPLETE (C70:US, CND/C90)	
* 14	A-4365-198-A	MAIN BOARD, COMPLETE (C70:AEP, UK)	
* 14	A-4365-200-A	MAIN BOARD, COMPLETE (C70:E, AUS, EA, SP, JE)	
* 14	A-4365-201-A	MAIN BOARD, COMPLETE (C70:G, IT)	
15	1-751-690-11	WIRE (FLAT TYPE) (21 CORE)	
16	1-751-659-11	WIRE (FLAT TYPE) (22 CORE)	
17	1-751-688-11	WIRE (FLAT TYPE) (13 CORE)	
* 18	1-649-358-11	TUNER BOARD (C70:US, CND, E, AUS, SP, JE/C90)	
* 18	1-649-359-11	TUNER BOARD (C70:AEP, UK, G, IT)	
* 19	A-4303-342-A	TCB011 BOARD, COMPLETE (C70:US, CND/C90)	
* 19	A-4303-343-A	TCB011 BOARD, COMPLETE (C70:AEP, UK)	
* 19	A-4303-344-A	TCB011 BOARD, COMPLETE (C70:G, IT)	
* 19	A-4303-345-A	TCB011 BOARD, COMPLETE (C70:E, EA, AUS, JE, SP)	
* 20	4-960-270-01	PANEL, BACK (C70:US, CND, E, AUS, EA, SP, JE/C90)	
* 20	4-960-270-11	PANEL, BACK (C70:AEP, UK, G, IT)	
* 21	4-962-179-02	HOLDER (PCB)	

7-2. CD MECHANISM SECTION 1 (CDM23B-5BD3)



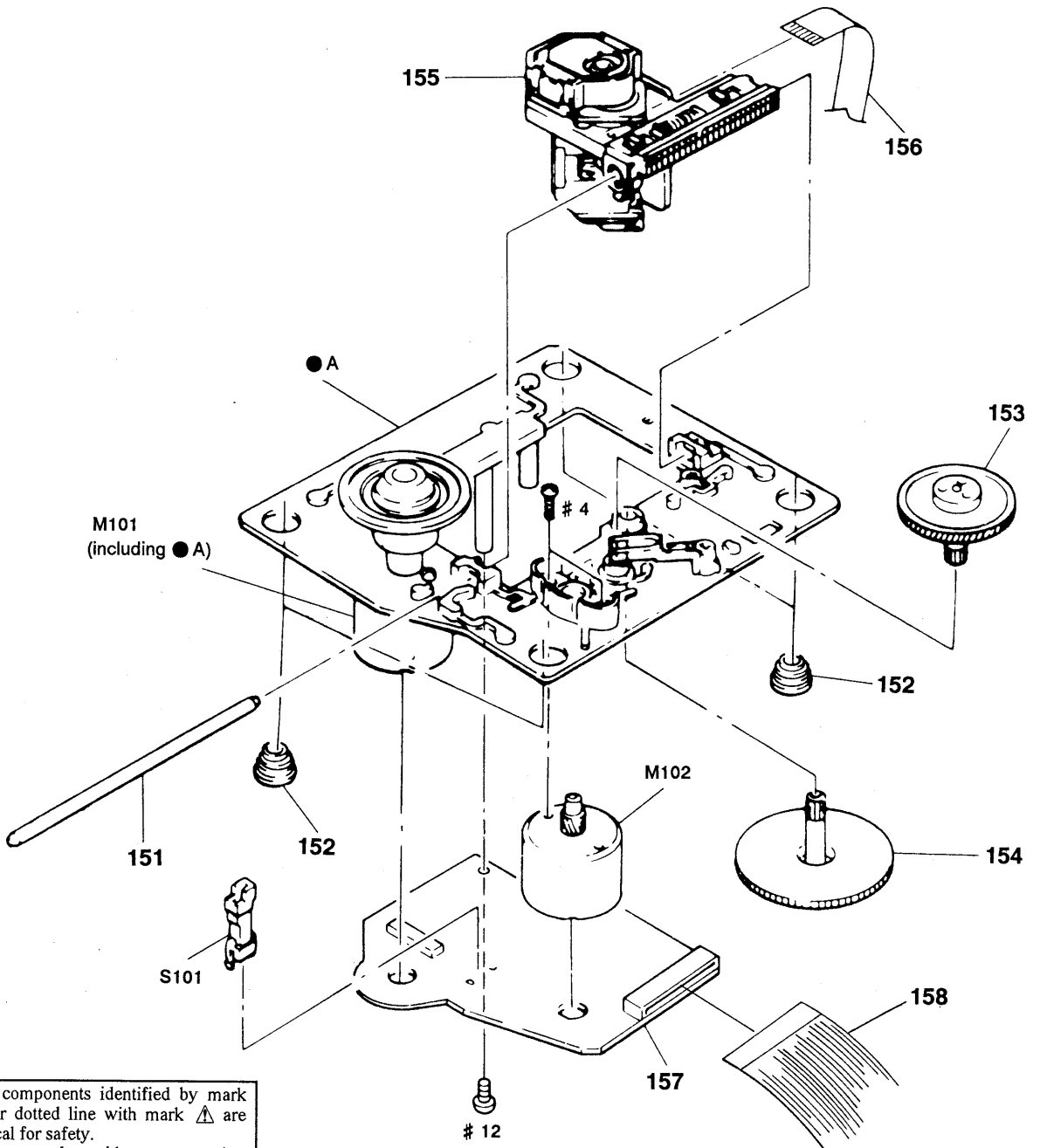
Ref. No.	Part No.	Description	Remark
51	4-954-649-01	SHAFT (ST-L)	
52	4-954-644-01	BRACKET (STOCKER L)	
53	4-954-638-01	TABLE, DISK	
54	4-954-651-01	EMBLEM (TABLE)	
55	4-954-651-11	EMBLEM (TABLE)	
56	4-954-651-21	EMBLEM (TABLE)	
57	4-954-651-31	EMBLEM (TABLE)	
58	4-954-651-41	EMBLEM (TABLE)	
59	4-954-639-01	GUIDE (TB)	
* 60	4-954-648-01	SHAFT (TABLE GUIDE)	
61	4-954-645-01	GUIDE (ST-RF)	
62	4-954-646-01	GUIDE (ST-RR)	
* 63	X-4942-943-1	BRACKET (ST-B) ASSY	
64	4-954-628-01	FLANGE (PULLEY)	
65	4-954-630-01	SLIDER (TB)	
66	4-954-634-01	BELT (SL)	
67	4-954-629-01	PULLEY (SL)	
68	4-933-134-01	SCREW (+PTPWH M2.6X6)	
69	3-669-595-00	WASHER (2), STOPPER	
70	4-954-627-01	GEAR (SL)	
* 71	4-954-621-01	STOPPER (TB)	
* 72	1-645-607-11	CDM MOTOR BOARD (A-H)	
* 73	4-954-631-01	SHAFT (SL GUIDE)	
* 74	4-954-623-01	FULCRUM (BU)	
75	4-955-575-01	SPRING (BU), COMPRESSION	
* 76	X-4942-941-1	BRACKET (SL-A) ASSY	
77	4-929-762-01	YOKE, CHUCKING	
78	1-452-676-11	MAGNET	
79	4-954-650-01	HOLDER (MG)	
80	4-955-230-01	PULLEY (CHUCKING)	
* 81	X-4942-942-1	HOLDER (BU) ASSY	
82	4-954-625-01	GEAR (CDM)	
83	3-372-516-01	PULLEY (LOADING)	
84	4-954-624-01	BELT (CDM)	
* 85	A-4660-264-A	BRACKET (SL-B) ASSY	
* 86	4-955-890-01	SCREW (3X6)	
87	4-955-231-01	SPACER (MG)	
88	3-558-708-21	WASHER, STOPPER	
89	4-955-890-01	SCREW (3X6)	
M103	A-4660-232-A	MOTOR (CDM) ASSY (LOADING)	

7-3. CD MECHANISM SECTION 2 (CDM23B-5BD3)



Ref. No.	Part No.	Description	Remark
101	X-4942-939-1	SLIDER (ST-L) ASSY	
102	3-558-708-21	WASHER, STOPPER	
103	4-954-625-01	GEAR (CDM)	
104	3-372-517-01	GEAR (LOADING)	
105	4-954-624-01	BELT (CDM)	
106	3-372-516-01	PULLEY (LOADING)	
107	4-954-636-01	GEAR (E)	
108	3-681-678-00	WASHER, SLIT	
* 109	1-645-607-11	CDM MOTOR BOARD (A-H)	
* 110	4-954-633-01	GUIDE (TB-LR)	
* 111	4-954-621-01	STOPPER (TB)	
112	X-4942-940-1	SLIDER (ST-R) ASSY	
* 113	X-4942-937-1	CHASSIS (CDM) ASSY	
114	4-954-637-01	PULLEY (BU)	
115	4-954-635-01	BELT (BU)	
116	4-955-168-01	SPRING, TENSION	
* 117	4-954-632-02	LEVER (JOINT)	
118	A-4660-167-A	SLIDER (BU CAM) ASSY	
119	4-928-473-01	INSULATOR	
M104	A-4660-232-A	MOTOR (CDM) ASSY (UP/DOWN)	
M105	A-4660-232-A	MOTOR (CDM) ASSY (CLAMP)	
S102	1-466-819-11	ENCODER, ROTARY	

7-4. OPTICAL PICK-UP SECTION (BU-5BD3)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
151	4-917-565-01	SHAFT, SLED	
152	4-933-126-01	INSULATOR (A)	
153	4-917-567-01	GEAR (M)	
154	4-917-564-01	GEAR (P), FLATNESS	
⚠155	8-848-144-11	DEVICE, OPTICAL KSS-240A	
156	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
* 157	A-4617-371-A	BD BOARD, COMPLETE	
158	1-751-597-11	WIRE (FLAT TYPE) (22 CORE)	
M101	X-4917-523-3	MOTOR ASSY, DISK (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
S101	1-572-085-11	SWITCH LEAF (LIMIT)	

SECTION 8
ELECTRICAL PARTS LIST

BD

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- CND : Canadian model
- G : German model
- IT : Italian model
- EA : Saudi Arabia model
- AUS : Australian model
- SP : Singapore model
- JE : Tourist model
- Hardware (# mark) list is given in the last of this parts list.

Ref.No.	Part No.	Description			Remark
*	A-4617-371-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C102	1-163-989-11	CERAMIC CHIP	0.033uF	10% 25V	
C103	1-126-163-11	ELECT	4.7uF	20% 50V	
C104	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C105	1-126-154-11	ELECT	47uF	20% 6.3V	
C106	1-126-154-11	ELECT	47uF	20% 6.3V	
C107	1-126-154-11	ELECT	47uF	20% 6.3V	
C108	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C109	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10% 25V	
C111	1-131-367-00	TANTALUM	22uF	10% 20V	
C112	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C113	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C114	1-164-161-11	CERAMIC CHIP	0.0022uF	10% 100V	
C115	1-164-161-11	CERAMIC CHIP	0.0022uF	10% 100V	
C117	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C118	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C119	1-164-161-11	CERAMIC CHIP	0.0022uF	10% 100V	
C120	1-163-989-11	CERAMIC CHIP	0.033uF	10% 25V	
C151	1-163-019-00	CERAMIC CHIP	0.0068uF	10% 50V	
C152	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C153	1-163-006-11	CERAMIC CHIP	560PF	10% 50V	
C154	1-164-161-11	CERAMIC CHIP	0.0022uF	10% 100V	
C155	1-163-023-00	CERAMIC CHIP	0.015uF	5% 50V	
C171	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C172	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C173	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C174	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
		< CONNECTOR >			
CN101	1-568-796-11	SOCKET, CONNECTOR 22P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
		< IC >			
IC101	8-752-053-73	IC CXA1372AQ			
IC102	8-759-822-36	IC LA6532M			

Ref.No.	Part No.	Description			Remark
		< JUMPER RESISTOR >			
JR101	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR102	1-216-295-00	METAL CHIP	0	5% 1/10W	
		< MOTOR >			
M101	X-4917-523-3	MOTOR, DISK ASSY (SPINDLE)			
M102	X-4917-504-1	MOTOR, ASSY (SLED)			
		< TRANSISTOR >			
Q101	8-729-901-01	TRANSISTOR DTC144EK			
		< RESISTOR >			
R101	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R102	1-216-095-00	METAL CHIP	82K	5% 1/10W	
R103	1-216-091-00	METAL CHIP	56K	5% 1/10W	
R104	1-216-099-00	METAL CHIP	120K	5% 1/10W	
R105	1-216-069-00	METAL CHIP	6.8K	5% 1/10W	
R106	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R107	1-216-114-00	METAL GLAZE	510K	5% 1/10W	
R108	1-216-105-00	METAL CHIP	220K	5% 1/10W	
R109	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R110	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R111	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R112	1-216-083-00	METAL CHIP	27K	5% 1/10W	
R113	1-216-071-00	METAL CHIP	8.2K	5% 1/10W	
R114	1-216-105-00	METAL CHIP	220K	5% 1/10W	
R152	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R153	1-216-085-00	METAL CHIP	33K	5% 1/10W	
R154	1-216-085-00	METAL CHIP	33K	5% 1/10W	
R155	1-216-093-00	METAL CHIP	68K	5% 1/10W	
R156	1-216-081-00	METAL CHIP	22K	5% 1/10W	
R157	1-216-079-00	METAL CHIP	18K	5% 1/10W	
R158	1-216-079-00	METAL CHIP	18K	5% 1/10W	
R159	1-216-079-00	METAL CHIP	18K	5% 1/10W	
R160	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R171	1-216-001-00	METAL CHIP	10	5% 1/10W	
R172	1-216-001-00	METAL CHIP	10	5% 1/10W	
R173	1-216-001-00	METAL CHIP	10	5% 1/10W	
R174	1-216-001-00	METAL CHIP	10	5% 1/10W	

BD CDM MOTOR MAIN

Ref.No.	Part No.	Description			Remark
		< VARIABLE RESISTOR >			
RV101	1-238-600-11	RES, ADJ, CARBON 10K			
RV102	1-238-600-11	RES, ADJ, CARBON 10K			
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT IN)			
**********					
*	1-645-607-11	CDM MOTOR BOARD (A-H)			
		**********			
		< CAPACITOR >			
C101	1-164-159-11	CERAMIC	0.1uF		50V
C102	1-164-159-11	CERAMIC	0.1uF		50V
C103	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
* CN105	1-568-934-11	PIN, CONNECTOR 7P			
* CN106	1-568-954-11	PIN, CONNECTOR 5P			
		< IC >			
IC401	8-759-071-52	IC ON1023-S			
IC601	8-759-071-52	IC ON1023-S			
		< MOTOR >			
M103	A-4660-232-A	MOTOR (CDM) ASSY (LOADING)			
M104	A-4660-232-A	MOTOR (CDM) ASSY (UP/DOWN)			
M105	A-4660-232-A	MOTOR (CDM) ASSY (CLAMP)			
		< RESISTOR >			
R401	1-247-811-31	CARBON	150	5% 1/4W	
R402	1-249-429-11	CARBON	10K	5% 1/4W	
R601	1-247-811-31	CARBON	150	5% 1/4W	
R602	1-249-429-11	CARBON	10K	5% 1/4W	
		< SWITCH >			
S101	1-571-300-21	SWITCH, ROTARY (BU UP/DOWN)			
S103	1-692-080-11	SWITCH, PUSH (1 KEY) (TRAY OUT)			
S104	1-692-080-11	SWITCH, PUSH (1 KEY) (TRAY IN)			
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Ref.No.	Part No.	Description			Remark
*	A-4365-193-A	MAIN BOARD, COMPLETE (C70:US, CND/C90)			
		**********			
*	A-4365-198-A	MAIN BOARD, COMPLETE (C70:AEP, UK)			
		**********			
*	A-4365-200-A	MAIN BOARD, COMPLETE			
		**********			
					(C70:E, AUS, EA, SP, JE)
*	A-4365-201-A	MAIN BOARD, COMPLETE (C70:G, IT)			
		**********			
*	3-309-144-21	HEAT SINK			
*	4-870-539-00	PLATE, GROUND			
*	4-880-403-11	HEAT SINK			
	4-963-010-01	PLATE, SHIELD			
	7-682-548-04	SCREW +BVTT 3X8 (S)			
		< CAPACITOR >			
C101	1-124-119-00	ELECT	330uF	20%	16V
C102	1-124-894-11	ELECT	6800uF	20%	16V
C105	1-164-346-11	CERAMIC CHIP	1uF		16V
C106	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C107	1-124-902-00	ELECT	0.47uF	20%	50V
C108	1-124-443-00	ELECT	100uF	20%	10V
C109	1-124-443-00	ELECT	100uF	20%	10V
C110	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C111	1-126-101-11	ELECT	100uF	20%	16V
C112	1-124-915-11	ELECT	10uF	20%	63V
C113	1-124-915-11	ELECT	10uF	20%	63V
C114	1-124-477-11	ELECT	47uF	20%	25V
C117	1-124-915-11	ELECT	10uF	20%	63V
C120	1-124-478-11	ELECT	100uF	20%	25V
C121	1-124-478-11	ELECT	100uF	20%	25V
C122	1-124-485-11	ELECT	330uF	20%	35V
C123	1-126-101-11	ELECT	100uF	20%	16V
C124	1-126-101-11	ELECT	100uF	20%	16V
C125	1-124-915-11	ELECT	10uF	20%	63V
C126	1-124-122-11	ELECT	100uF	20%	50V
C127	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C128	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C129	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C130	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C131	1-124-915-11	ELECT	10uF	20%	63V
C132	1-124-903-11	ELECT	1uF	20%	50V
C133	1-124-903-11	ELECT	1uF	20%	50V
C141	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C142	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C151	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C152	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C213	1-164-346-11	CERAMIC CHIP	1uF		16V
C214	1-163-038-00	CERAMIC CHIP	0.1uF		25V

Ref.No.	Part No.	Description			Remark
C215	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C216	1-125-486-11	DOUBLE LAYERS	0.22F		5.5V
C217	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C218	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C219	1-124-915-11	ELECT	10uF	20%	63V
C220	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C221	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C222	1-164-346-11	CERAMIC CHIP	1uF		16V
C223	1-136-173-00	FILM	0.47uF	5%	50V
C224	1-136-153-00	FILM	0.01uF	5%	50V
C227	1-164-346-11	CERAMIC CHIP	1uF		16V
C228	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C229	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C230	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C232	1-164-346-11	CERAMIC CHIP	1uF		16V
C233	1-164-346-11	CERAMIC CHIP	1uF		16V
C236	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C237	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C238	1-124-126-00	ELECT	47uF	20%	10V
C239	1-124-126-00	ELECT	47uF	20%	10V
C240	1-124-443-00	ELECT	100uF	20%	10V
C241	1-124-443-00	ELECT	100uF	20%	10V
C242	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C243	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C248	1-124-443-00	ELECT	100uF	20%	10V
C249	1-124-604-00	ELECT	330uF	20%	10V
C250	1-164-346-11	CERAMIC CHIP	1uF		16V
C253	1-126-176-11	ELECT	220uF	20%	10V
C254	1-124-902-00	ELECT	0.47uF	20%	50V
C255	1-126-101-11	ELECT	100uF	20%	16V
C256	1-124-925-11	ELECT	2.2uF	20%	100V
C257	1-124-925-11	ELECT	2.2uF	20%	100V
C258	1-124-915-11	ELECT	10uF	20%	63V
C259	1-124-915-11	ELECT	10uF	20%	63V
C260	1-124-915-11	ELECT	10uF	20%	63V
C261	1-124-915-11	ELECT	10uF	20%	63V
C262	1-124-915-11	ELECT	10uF	20%	63V
C263	1-124-915-11	ELECT	10uF	20%	63V
C270	1-124-126-00	ELECT	47uF	20%	10V
C271	1-124-604-00	ELECT	330uF	20%	10V
C272	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C273	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C274	1-163-038-00	CERAMIC CHIP	0.1uF		25V

Ref.No.	Part No.	Description	Remark
		< CONNECTOR >	
CN201	1-750-923-31	HOUSING, CONNECTOR (PC BOARD) 15P	
* CN202	1-565-561-11	PIN, CONNECTOR 3P (AU BUS)	
CN203	1-569-495-11	SOCKET, CONNECTOR 9P (SYSTEM CONTROL)	
* CN205	1-568-934-11	PIN, CONNECTOR 7P	
CN206	1-506-468-11	PIN, CONNECTOR 3P	
CN207	1-506-468-11	PIN, CONNECTOR 3P	
* CN208	1-568-951-11	PIN, CONNECTOR 2P	
CN209	1-506-469-11	PIN, CONNECTOR 4P	
* CN210	1-573-264-11	PIN, CONNECTOR 5P	
* CN211	1-764-108-11	CONNECTOR, FFC 22P	
CN212	1-568-838-11	SOCKET, CONNECTOR 21P	
* CN213	1-564-338-00	PIN, CONNECTOR 4P (C70:AEP, UK, E, AUS, G, IT, EA, SP, JE)	
		< DIODE >	
D101	8-719-210-33	DIODE EC10DS2	
D102	8-719-210-33	DIODE EC10DS2	
D103	8-719-210-33	DIODE EC10DS2	
D104	8-719-210-33	DIODE EC10DS2	
D105	8-719-210-33	DIODE EC10DS2	
D106	8-719-210-33	DIODE EC10DS2	
D107	8-719-210-33	DIODE EC10DS2	
D108	8-719-210-33	DIODE EC10DS2	
D109	8-719-021-97	DIODE UZM11X	
D110	8-719-210-33	DIODE EC10DS2	
D111	8-719-016-06	DIODE UZP-30BB	
D112	8-719-015-02	DIODE UZP-8.2BB	
D113	8-719-014-42	DIODE UZP-4.3BA	
D114	8-719-800-76	DIODE 1SS226	
D115	8-719-800-76	DIODE 1SS226	
D116	8-719-990-39	DIODE DCB010	
D117	8-719-990-39	DIODE DCB010	
D118	8-719-210-33	DIODE EC10DS2	
D205	8-719-990-39	DIODE DCB010	
D206	8-719-210-33	DIODE EC10DS2	
D207	8-719-210-33	DIODE EC10DS2	
		< IC >	
IC101	8-759-636-24	IC M5290FP	
IC102	8-759-605-00	IC M5F78M07L	
IC103	8-759-158-62	IC TA78057S	
IC104	8-759-245-79	IC TA79005S	
IC105	8-759-009-06	IC MC14052BF	
IC106	8-749-921-12	IC GP1F32T (DIGITAL OPTICAL OUT)	
IC201	8-759-163-37	IC UPD75516GF-461-3B9	
IC202	8-752-352-93	IC CXD2500BQ	
IC203	8-759-098-27	IC MSM6538-01GS-VKR1	
IC204	8-759-155-52	IC PCM-67U-B	

MAIN

Ref.No.	Part No.	Description				Remark
IC205	8-759-636-55	IC	M5218AFP			
IC207	8-759-512-81	IC	LH5160N-10L			
IC208	8-759-009-21	IC	MC14093BF			
IC209	8-759-501-73	IC	BA6418N			
IC210	8-759-501-73	IC	BA6418N			
IC211	8-759-501-73	IC	BA6418N			
		< JUMPER RESISTOR >				
JW102	1-216-295-00	METAL CHIP	0	5%	1/10W	
		< COIL >				
L201	1-408-777-00	INDUCTOR CHIP	10uH			
L202	1-408-777-00	INDUCTOR CHIP	10uH			
L203	1-408-777-00	INDUCTOR CHIP	10uH			
		< TRANSISTOR >				
Q101	8-729-209-15	TRANSISTOR	2SD2012			
Q103	8-729-602-21	TRANSISTOR	2SC4154-F			
Q104	8-729-018-59	TRANSISTOR	2SB1375-LC			
Q105	8-729-106-68	TRANSISTOR	2SD1615A-GP			
Q106	8-729-141-83	TRANSISTOR	2SB1094-LK			
Q107	8-729-805-41	TRANSISTOR	2SC3398			
Q108	8-729-018-59	TRANSISTOR	2SB1375-LC			
Q109	8-729-602-21	TRANSISTOR	2SC4154-F			
Q110	8-729-018-59	TRANSISTOR	2SB1375-LC			
Q111	8-729-602-36	TRANSISTOR	2SA1602-F			
Q112	8-729-805-41	TRANSISTOR	2SC3398			
		< RESISTOR >				
R101	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R102	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R103	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R110	1-216-001-00	METAL CHIP	10	5%	1/10W	
⚠R111	1-217-637-00	FUSIBLE	1	5%	1/4W	F
R112	1-216-041-00	METAL CHIP	470	5%	1/10W	
R113	1-216-041-00	METAL CHIP	470	5%	1/10W	
R114	1-216-042-00	METAL CHIP	510	5%	1/10W	
R115	1-216-037-00	METAL CHIP	330	5%	1/10W	
R116	1-216-037-00	METAL CHIP	330	5%	1/10W	
R117	1-216-039-00	METAL CHIP	390	5%	1/10W	
R118	1-216-039-00	METAL CHIP	390	5%	1/10W	
R120	1-247-757-11	CARBON	2.7K	5%	1/2W	
R122	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R124	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R125	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R126	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R127	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R128	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R129	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R130	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R131	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R132	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R133	1-216-025-00	METAL CHIP	100	5%	1/10W	
R134	1-216-025-00	METAL CHIP	100	5%	1/10W	
R135	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R136	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R137	1-216-025-00	METAL CHIP	100	5%	1/10W	
R140	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R141	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R142	1-247-757-11	CARBON	2.7K	5%	1/2W	
⚠R143	1-217-640-91	FUSIBLE	3.3	5%	1/4W	F
R147	1-216-049-00	METAL CHIP	100	5%	1/10W	
R202	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R203	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R204	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R205	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R206	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R207	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R208	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R209	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R210	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R211	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R212	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R213	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R214	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R215	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R216	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R217	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R218	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R219	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R220	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R221	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R222	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R223	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R224	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R225	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R226	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R227	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R228	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R229	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R230	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R231	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R232	1-216-073-00	METAL CHIP	10K	5%	1/10W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref.No.	Part No.	Description				Remark
R233	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R234	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R235	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R236	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R237	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R238	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R239	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R240	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R241	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R242	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R243	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R244	1-216-041-00	METAL CHIP	470	5%	1/10W	
R245	1-216-041-00	METAL CHIP	470	5%	1/10W	
R246	1-216-041-00	METAL CHIP	470	5%	1/10W	
R247	1-216-041-00	METAL CHIP	470	5%	1/10W	
R248	1-216-033-00	METAL CHIP	220	5%	1/10W	
R249	1-216-041-00	METAL CHIP	470	5%	1/10W	
R250	1-216-041-00	METAL CHIP	470	5%	1/10W	
R251	1-216-041-00	METAL CHIP	470	5%	1/10W	
R252	1-216-041-00	METAL CHIP	470	5%	1/10W	
R253	1-216-041-00	METAL CHIP	470	5%	1/10W	
R254	1-216-045-00	METAL CHIP	680	5%	1/10W	
R255	1-216-045-00	METAL CHIP	680	5%	1/10W	
R256	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R257	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R262	1-216-025-00	METAL CHIP	100	5%	1/10W	
R263	1-216-025-00	METAL CHIP	100	5%	1/10W	
R264	1-216-031-00	METAL CHIP	180	5%	1/10W	
R265	1-216-031-00	METAL CHIP	180	5%	1/10W	
⚠R266	1-249-397-11	CARBON	22	5%	1/4W	F
⚠R267	1-249-397-11	CARBON	22	5%	1/4W	F
R268	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R269	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R270	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R271	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R272	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R273	1-216-025-00	METAL CHIP	100	5%	1/10W	
R276	1-216-025-00	METAL CHIP	100	5%	1/10W	
R277	1-216-025-00	METAL CHIP	100	5%	1/10W	
R278	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R279	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
		< TRANSFORMER >				
⚠T101	1-423-771-11	TRANSFORMER, POWER				
		< TEST PIN >				
* TP201	1-695-630-11	PIN, CONNECTOR 6P				

Ref.No.	Part No.	Description				Remark
		< VIBRATOR >				
X201	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)				
X202	1-579-280-11	VIBRATOR, CRYSTAL (16MHz)				
**********						
*	1-649-225-11	MICROPHONE BOARD				
		**********				
		(C70:AEP, UK, E, AUS, G, IT, EA, SP, JE)				
		< CAPACITOR >				
C501	1-124-257-00	ELECT	2.2uF	20%	50V	
C502	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	
C503	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C504	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C505	1-124-464-11	ELECT	0.22uF	20%	50V	
C506	1-126-157-11	ELECT	10uF	20%	16V	
C507	1-124-907-11	ELECT	10uF	20%	50V	
C508	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C555	1-124-464-11	ELECT	0.22uF	20%	50V	
C556	1-126-157-11	ELECT	10uF	20%	16V	
		< IC >				
IC501	8-759-603-13	IC M5218FP				
		< JACK >				
J501	1-562-837-21	JACK (MIX MIC)				
		< RESISTOR >				
R501	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R502	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R503	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R504	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R505	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R506	1-216-033-00	METAL CHIP	220	5%	1/10W	
R507	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R508	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R509	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R510	1-216-033-00	METAL CHIP	220	5%	1/10W	
R556	1-216-033-00	METAL CHIP	220	5%	1/10W	
		< VARIABLE RESISTOR >				
RV501	1-223-434-11	RES, VAR, CARBON 50K (MIC LEVEL)				
**********						

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

PANEL

Ref. No.	Part No.	Description			Remark
*	A-4365-203-A	PANEL BOARD, COMPLETE (C70:US, CND/C90)			
		**********			
*	A-4365-204-A	PANEL BOARD, COMPLETE (C70:AEP, UK)			
		**********			
*	A-4365-205-A	PANEL BOARD, COMPLETE			
		**********			
		(C70:E, AUS, EA, SP, JE)			
*	A-4365-206-A	PANEL BOARD, COMPLETE (C70:IT)			
		**********			
*	A-4365-210-A	PANEL BOARD, COMPLETE (C70:G)			
		**********			
*	4-921-941-01	CUSHION (FL)			
*	4-954-701-01	HOLDER (FL TUBE)			
*	4-959-227-01	HOLDER, LED			
	4-959-581-01	COVER (SENSOR)			
*	4-960-269-01	HOLDER (FL)			
		< CAPACITOR >			
C603	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C604	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C606	1-163-083-00	CERAMIC CHIP	1PF		50V
C607	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C608	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C609	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C610	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C611	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C612	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C613	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C614	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C615	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C616	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C617	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C618	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C619	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C620	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C621	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C622	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C623	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C624	1-124-443-00	ELECT	100uF	20%	10V
C625	1-126-177-11	ELECT	100uF	20%	10V
C626	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C627	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C628	1-126-948-11	ELECT	100uF	20%	50V
C630	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C631	1-126-157-11	ELECT	10uF	20%	16V
C632	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C633	1-164-346-11	CERAMIC CHIP	1uF		16V
C634	1-164-346-11	CERAMIC CHIP	1uF		16V

Ref. No.	Part No.	Description			Remark
C701	1-126-177-11	ELECT	100uF	20%	10V
C702	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C706	1-163-234-00	CERAMIC CHIP	20PF	5%	50V
C707	1-163-234-00	CERAMIC CHIP	20PF	5%	50V
C710	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C711	1-126-157-11	ELECT	10uF	20%	16V
C712	1-126-154-11	ELECT	47uF	20%	6.3V
C713	1-136-173-00	FILM	0.47uF	5%	50V
C714	1-136-173-00	FILM	0.47uF	5%	50V
C715	1-136-173-00	FILM	0.47uF	5%	50V
C717	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C719	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C720	1-126-157-11	ELECT	10uF	20%	16V
C721	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C722	1-126-157-11	ELECT	10uF	20%	16V
C723	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C725	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C726	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C727	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C728	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C729	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CERAMIC FILTER >			
CF701	1-579-125-11	VIBRATOR, CERAMIC (8MHz)			
		< CONNECTOR >			
* CN601	1-568-864-11	SOCKET, CONNECTOR 21P			
* CN602	1-568-856-11	SOCKET, CONNECTOR 13P			
		< DIODE >			
D601	8-719-990-39	DIODE	DCB010		
D620	8-719-045-13	DIODE	SEL2910A-TP6 (DISC 4)		
D621	8-719-045-13	DIODE	SEL2910A-TP6 (DISC 3)		
D622	8-719-045-13	DIODE	SEL2910A-TP6 (DISC 2)		
D623	8-719-045-13	DIODE	SEL2910A-TP6 (DISC 1)		
D624	8-719-045-13	DIODE	SEL2910A-TP6 (DISC 5)		
D625	8-719-041-92	DIODE	SEL2410E-C-TP6 (DISC 4)		
D626	8-719-041-92	DIODE	SEL2410E-C-TP6 (DISC 3)		
D627	8-719-041-92	DIODE	SEL2410E-C-TP6 (DISC 2)		
D628	8-719-041-92	DIODE	SEL2410E-C-TP6 (DISC 1)		
D629	8-719-041-92	DIODE	SEL2410E-C-TP6 (DISC 5)		
D630	8-719-029-95	DIODE	TLN117		
D701	8-719-990-39	DIODE	DCB010		
D702	8-719-990-39	DIODE	DCB010		
D703	8-719-990-39	DIODE	DCB010		
D704	8-719-990-39	DIODE	DCB010		
D706	8-719-990-39	DIODE	DCB010 (C70:US, CND, IT/C90)		
D707	8-719-990-39	DIODE	DCB010 (C70:AEP, UK, IT)		
D708	8-719-990-39	DIODE	DCB010 (C70:E, AUS, G, EA, SP, JE)		
D710	8-719-038-63	DIODE	SEL5220S-TH8C (PRESET)		

Ref.No.	Part No.	Description	Remark
D711	8-719-038-63	DIODE SEL5220S-TH8C (TUNING)	
D712	8-719-990-39	DIODE DCB010	
D716	8-719-990-39	DIODE DCB010	
D717	8-719-990-39	DIODE DCB010	
D718	8-719-990-39	DIODE DCB010	
		< FLUORESCENT INDICATOR >	
FL601	1-519-738-11	INDICATOR TUBE, FLUORESCENT	
FL701	1-517-215-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC601	8-759-184-09	IC 75518GF-127-3B9	
IC602	8-759-077-16	IC M66004M4FP	
IC603	8-759-165-81	IC PST600D-T	
IC701	8-759-183-99	IC TMP87CC70F-6129	
IC702	8-759-504-12	IC X24C01S	
IC703	8-759-165-81	IC PST600D-T	
IC704	8-759-165-84	IC PST600G-T	
IC705	8-749-923-80	IC GP1U90XB	
		< COIL >	
L601	1-410-521-11	INDUCTOR 100uH	
L701	1-410-521-11	INDUCTOR 100uH	
L702	1-410-521-11	INDUCTOR 100uH	
L703	1-410-521-11	INDUCTOR 100uH	
		< TRANSISTOR >	
Q601	8-729-602-21	TRANSISTOR 2SC4154-F	
Q604	8-729-018-23	TRANSISTOR TPS626	
Q612	8-729-602-21	TRANSISTOR 2SC4154-F	
Q613	8-729-602-21	TRANSISTOR 2SC4154-F	
Q701	8-729-805-41	TRANSISTOR 2SC3398	
Q702	8-729-805-41	TRANSISTOR 2SC3398	
Q706	8-729-805-41	TRANSISTOR 2SC3398	
Q707	8-729-602-21	TRANSISTOR 2SC4154-F	
		< RESISTOR >	
R601	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R602	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R603	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R604	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R605	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R606	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R607	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R608	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R609	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R610	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R611	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R612	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R613	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R614	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R615	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R617	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R618	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R619	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R620	1-216-033-00	METAL CHIP 220 5% 1/10W	
R621	1-216-033-00	METAL CHIP 220 5% 1/10W	
R622	1-216-033-00	METAL CHIP 220 5% 1/10W	
R623	1-216-033-00	METAL CHIP 220 5% 1/10W	
R624	1-216-033-00	METAL CHIP 220 5% 1/10W	
R625	1-216-035-00	METAL CHIP 270 5% 1/10W	
R626	1-216-035-00	METAL CHIP 270 5% 1/10W	
R627	1-216-035-00	METAL CHIP 270 5% 1/10W	
R628	1-216-035-00	METAL CHIP 270 5% 1/10W	
R629	1-216-035-00	METAL CHIP 270 5% 1/10W	
R632	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R633	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R635	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R636	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R637	1-216-079-00	METAL CHIP 18K 5% 1/10W	
R638	1-216-109-91	METAL GLAZE 330K 5% 1/10W	
R651	1-216-041-00	METAL CHIP 470 5% 1/10W	
R652	1-216-041-00	METAL CHIP 470 5% 1/10W	
R653	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R654	1-216-041-00	METAL CHIP 470 5% 1/10W	
R655	1-216-045-00	METAL CHIP 680 5% 1/10W	
R656	1-216-045-00	METAL CHIP 680 5% 1/10W	
R657	1-216-037-00	METAL CHIP 330 5% 1/10W	
R658	1-216-045-00	METAL CHIP 680 5% 1/10W	
R659	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R660	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R661	1-216-033-00	METAL CHIP 220 5% 1/10W	
R662	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R663	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R664	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R666	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R667	1-216-057-91	METAL GLAZE 2.2K 5% 1/10W	
R668	1-216-057-91	METAL GLAZE 2.2K 5% 1/10W	
R670	1-216-057-91	METAL GLAZE 2.2K 5% 1/10W	
R671	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R672	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R674	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R675	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R676	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R678	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R701	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R702	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R703	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R704	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R705	1-216-049-00	METAL CHIP 1K 5% 1/10W	

PANEL TCB011

Ref. No.	Part No.	Description	Remark
R706	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R707	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R708	1-216-057-91	METAL GLAZE 2.2K 5% 1/10W	
R709	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R710	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R711	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R712	1-216-037-00	METAL CHIP 330 5% 1/10W	
R716	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R717	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R718	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R719	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R720	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R721	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R723	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R724	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R725	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R726	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R727	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R728	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R729	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R730	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R736	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R739	1-216-025-00	METAL CHIP 100 5% 1/10W	
R740	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R741	1-216-109-91	METAL GLAZE 330K 5% 1/10W	
		< SWITCH >	
S601	1-554-303-21	SWITCH, TACTILE (▷▷|, ▶▶)	
S602	1-554-303-21	SWITCH, TACTILE (◀◀, |◁◁)	
S603	1-554-303-21	SWITCH, TACTILE (■)	
S604	1-554-303-21	SWITCH, TACTILE (▷)	
S605	1-554-303-21	SWITCH, TACTILE (DISC 1)	
S606	1-554-303-21	SWITCH, TACTILE (OPEN/CLOSE ⏏ (1))	
S608	1-554-303-21	SWITCH, TACTILE (▮▮)	
S609	1-554-303-21	SWITCH, TACTILE (DISC 2)	
S610	1-554-303-21	SWITCH, TACTILE (⏏ (2))	
S612	1-554-303-21	SWITCH, TACTILE (CONTINUE)	
S613	1-554-303-21	SWITCH, TACTILE (DISC 3)	
S614	1-554-303-21	SWITCH, TACTILE (⏏ (3))	
S616	1-554-303-21	SWITCH, TACTILE (SHUFFLE)	
S617	1-554-303-21	SWITCH, TACTILE (DISC 4)	
S618	1-554-303-21	SWITCH, TACTILE (⏏ (4))	
S620	1-554-303-21	SWITCH, TACTILE (PROGRAM)	
S621	1-554-303-21	SWITCH, TACTILE (DISC 5)	
S622	1-554-303-21	SWITCH, TACTILE (⏏ (5) DISC CHECK)	
S624	1-554-303-21	SWITCH, TACTILE (REPEAT)	
S625	1-554-303-21	SWITCH, TACTILE (CHARACTER ▷)	
S626	1-554-303-21	SWITCH, TACTILE (CHARACTER ◁)	
S628	1-554-303-21	SWITCH, TACTILE (CURSOR)	
S629	1-554-303-21	SWITCH, TACTILE (MEMO INPUT)	
S630	1-554-303-21	SWITCH, TACTILE (ERASE)	
S631	1-554-303-21	SWITCH, TACTILE (TIME/MEMO)	
S632	1-554-303-21	SWITCH, TACTILE (S.F. FILE)	
S701	1-554-303-21	SWITCH, TACTILE (WAKE UP TIMER 1)	
S702	1-554-303-21	SWITCH, TACTILE (WAKE UP TIMER 2)	
S703	1-554-303-21	SWITCH, TACTILE (TUNER REC)	
S705	1-554-303-21	SWITCH, TACTILE (MEMORY/NEXT)	
S706	1-554-303-21	SWITCH, TACTILE (MODE)	
S707	1-554-303-21	SWITCH, TACTILE (STEREO/MONO)	
S708	1-554-303-21	SWITCH, TACTILE (BAND)	
S709	1-554-303-21	SWITCH, TACTILE (-)	
S710	1-554-303-21	SWITCH, TACTILE (+)	
		< VIBRATOR >	
X601	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)	
X701	1-567-098-00	OSCILLATOR, CRYSTAL (32kHz)	
**********			
*	A-4303-342-A	TCB011 BOARD, COMPLETE (C70:US, CND/C90)	
		**********	
*	A-4303-343-A	TCB011 BOARD, COMPLETE (C70:AEP, UK)	
		**********	
*	A-4303-344-A	TCB011 BOARD, COMPLETE (C70:G, IT)	
		**********	
*	A-4303-345-A	TCB011 BOARD, COMPLETE	
		********** (C70:E, EA, AUS, JE, SP)	
		< CAPACITOR >	
C1	1-124-120-11	ELECT 220uF 20% 25V	
C2	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C3	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C4	1-163-038-00	CERAMIC CHIP 0.1uF 25V	(C70:G, IT)
C5	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C6	1-163-038-00	CERAMIC CHIP 0.1uF 25V	(C70:AEP, UK, G, IT)
C7	1-163-038-00	CERAMIC CHIP 0.1uF 25V	(C70:G, IT)
C8	1-164-232-11	CERAMIC CHIP 0.01uF 50V	(C70:AEP, UK, G, IT)
C9	1-163-012-00	CERAMIC CHIP 0.0018uF 10% 50V	(C70:AEP, UK, G, IT)
C10	1-163-011-11	CERAMIC CHIP 0.0015uF 10% 50V	(C70:AEP, UK, G, IT)
C12	1-164-343-91	CERAMIC CHIP 0.056uF 10% 50V	(C70:E, AUS, EA, SP, JE)
C13	1-164-232-11	CERAMIC CHIP 0.01uF 50V	(C70:E, AUS, EA, SP, JE)

Ref.No.	Part No.	Description				Remark
C14	1-163-577-91	CERAMIC CHIP	5PF	0.25PF	50V	(C70:E, AUS, EA, SP, JE)
C21	1-163-103-00	CERAMIC CHIP	27PF	5%	50V	
C22	1-163-103-00	CERAMIC CHIP	27PF	5%	50V	
C23	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C24	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C25	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C26	1-164-346-11	CERAMIC CHIP	1uF		16V	
C27	1-164-505-11	CERAMIC CHIP	2.2uF		16V	
C29	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C31	1-164-505-11	CERAMIC CHIP	2.2uF		16V	
C32	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C33	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C34	1-164-005-11	CERAMIC CHIP	0.47uF		25V	(C70:AEP, UK, G, IT)
C35	1-163-033-00	CERAMIC CHIP	0.022uF		50V	(C70:AEP, UK, G, IT)
C36	1-163-033-00	CERAMIC CHIP	0.022uF		50V	(C70:AEP, UK, G, IT)
C51	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C52	1-123-613-91	ELECT	3.3uF		35V	(C70:US, CND, E, AUS, EA, SP, JE/C90)
C52	1-164-505-11	CERAMIC CHIP	2.2uF		16V	(C70:AEP, UK, G, IT)
C53	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C54	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C55	1-163-105-00	CERAMIC CHIP	33PF	5%	50V	(C70:US, CND, AEP, UK, E, AUS, EA, SP, JE/C90)
C55	1-163-135-00	CERAMIC CHIP	560PF	5%	50V	(C70:G, IT)
C56	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	(C70:G, IT)
C57	1-164-346-11	CERAMIC CHIP	1uF		16V	
C58	1-164-346-11	CERAMIC CHIP	1uF		16V	
C59	1-164-346-11	CERAMIC CHIP	1uF		16V	
C60	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C61	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V	(C70:AEP, UK, E, AUS, G, IT, EA, SP, JE)
C61	1-163-032-00	CERAMIC CHIP	0.015uF		50V	(C70:US, CND/C90)
C62	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V	(C70:AEP, UK, E, AUS, G, IT, EA, SP, JE)
C62	1-163-032-00	CERAMIC CHIP	0.015uF		50V	(C70:US, CND/C90)
C63	1-164-346-11	CERAMIC CHIP	1uF		16V	
C64	1-164-346-11	CERAMIC CHIP	1uF		16V	
C65	1-164-346-11	CERAMIC CHIP	1uF		16V	
C66	1-164-346-11	CERAMIC CHIP	1uF		16V	
C69	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C70	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C71	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C72	1-124-120-11	ELECT	220uF	20%	25V	
C73	1-164-505-11	CERAMIC CHIP	2.2uF		16V	
C74	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C75	1-126-157-11	ELECT	10uF	20%	16V	
C76	1-126-101-11	ELECT	100uF	20%	16V	
C79	1-126-157-11	ELECT	10uF	20%	16V	
C80	1-124-472-11	ELECT	470uF	20%	10V	
C81	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C82	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C83	1-164-232-11	CERAMIC CHIP	0.01uF		50V	(C70:G, IT)
		< CERAMIC FILTER >				
CF1	1-527-968-11	FILTER, CERAMIC (10.7MHz)				(C70:E, AUS, EA, SP, JE)
CF1	1-567-389-11	FILTER, CERAMIC (10.7MHz)				(C70:AEP, UK, G, IT)
CF1	1-579-675-11	FILTER, CERAMIC (10.7MHz)				(C70:US, CND/C90)
CF2	1-567-389-11	FILTER, CERAMIC (10.7MHz)				(C70:G, IT)
CF51	1-579-675-11	FILTER, CERAMIC (10.7MHz)				(C70:US, CND/C90)
CF51	1-567-389-11	FILTER, CERAMIC (10.7MHz)				(C70:AEP, UK, E, AUS, G, IT, EA, SP, JE)
		< CONNECTOR >				
CN1	1-573-105-11	CONNECTOR, PC BOARD (RECEPTACLE) 4P				
CN2	1-573-105-11	CONNECTOR, PC BOARD (RECEPTACLE) 4P				
CN3	1-573-105-11	CONNECTOR, PC BOARD (RECEPTACLE) 4P				(C70:US, CND/C90)
CN3	1-659-808-11	CONNECTOR, PC BOARD (RECEPTACLE) 8P				(C70:AEP, UK, E, AUS, G, IT, EA, SP, JE)
CN4	1-573-105-11	CONNECTOR, PC BOARD (RECEPTACLE) 4P				(C70:US, CND/C90)
CN5	1-573-105-11	CONNECTOR, PC BOARD (RECEPTACLE) 4P				
		< TRIMER >				
CV1	1-141-265-31	TRIMER CAPACITOR (C70:E)				
CV2	1-141-265-31	TRIMER CAPACITOR (C70:E)				
		< DIODE >				
D1	8-719-975-10	DIODE	KV1560NT (C70:E)			
D21	8-719-422-46	DIODE	MA8056			
D51	8-719-016-74	DIODE	1SS352			
		< FRONTEND >				
FE1	1-465-673-11	FRONTEND (FM 2 BAND) (FM)				(C70:US, CND, AEP, UK, E, AUS, EA, SP, JE/C90)
FE1	1-463-957-11	FRONTEND (FM 4 BAND) (FM)				(C70:G, IT)
FE2	1-239-030-11	ENCAPSULATED COMPONENT (MW)				(C70:AEP, UK, G, IT)
FE2	1-239-031-11	ENCAPSULATED COMPONENT (AM)				(C70:US, CND/C90)

TCB011

Ref. No.	Part No.	Description	Remark
FE2	1-239-032-11	ENCAPSULATED COMPONENT (MW)	(C70:US, CND, E, AUS, EA, SP, JE/C90)
FE3	1-239-049-11	ENCAPSULATED COMPONENT (LW)	(C70:AEP, UK, G, IT)
		< FILTER >	
FL51	1-239-029-11	ENCAPSULATED COMPONENT (C70:G, IT)	
		< IC >	
IC21	8-759-821-43	IC LC7218M	
IC51	8-759-823-68	IC LA1851NM	
		< IFT >	
IFT51	1-404-954-11	TRANSFORMER, DISCRIMINATOR (FM DET)	
IFT52	1-404-713-11	TRANSFORMER, IF (MW/LW IF)	
		< JUMPER RESISTOR >	
JW1	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW2	1-216-295-00	METAL CHIP 0 5% 1/10W	(C70:US, CND, AEP, UK, E, AUS, EA, SP, JE/C90)
JW3	1-216-295-00	METAL CHIP 0 5% 1/10W	(C70:E, AUS, EA, SP, JE)
JW4	1-216-295-00	METAL CHIP 0 5% 1/10W	(C70:US, CND, AEP, UK, G, IT/C90)
JW5	1-216-295-00	METAL CHIP 0 5% 1/10W	(C70:US, CND, AEP, UK, G, IT/C90)
JW6	1-216-295-00	METAL CHIP 0 5% 1/10W	(C70:US, CND/C90)
JW7	1-216-295-00	METAL CHIP 0 5% 1/10W	(C70:AEP, UK, G, IT)
		< COIL >	
L1	1-408-793-21	INDUCTOR CHIP 220uH	(C70:AEP, UK, G, IT)
L51	1-408-798-00	INDUCTOR CHIP 1mH	
		< LPF >	
LPF51	1-235-221-00	FILTER, LOW PASS	
		< TRANSISTOR >	
Q1	8-729-804-72	TRANSISTOR 2SC2814-F4	
Q2	8-729-804-72	TRANSISTOR 2SC2814-F4	(C70:G, IT)
Q3	8-729-810-16	TRANSISTOR 2SA1678	
Q4	8-729-602-36	TRANSISTOR 2SA1602	(C70:AEP, UK, E, AUS, G, IT, EA, SP, JE)
Q5	8-729-602-36	TRANSISTOR 2SA1602	(C70:E, AUS, EA, SP, JE)
Q5	8-729-810-28	TRANSISTOR 2SC4398	(C70:AEP, UK, G, IT)
Q6	8-729-602-36	TRANSISTOR 2SA1602	(C70:AEP, UK, E, AUS, G, IT, EA, SP, JE)
Q7	8-729-810-28	TRANSISTOR 2SC4398	(C70:AEP, UK, G, IT)
Q21	8-729-602-21	TRANSISTOR 2SC4154-F	
Q22	8-729-232-69	TRANSISTOR 2SK208GR3	
Q23	8-729-232-59	TRANSISTOR 2SC4666B	
Q24	8-729-232-69	TRANSISTOR 2SK208GR3	(C70:AEP, UK, G, IT)
Q25	8-729-232-59	TRANSISTOR 2SC4666B	(C70:AEP, UK, G, IT)
Q51	8-729-602-21	TRANSISTOR 2SC4154-F	
Q52	8-729-602-21	TRANSISTOR 2SC4154-F	
Q53	8-729-810-28	TRANSISTOR 2SC4398	
		< RESISTOR >	
R1	1-216-037-00	METAL CHIP 330 5% 1/10W	
R2	1-216-037-00	METAL CHIP 330 5% 1/10W	
R3	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R4	1-216-037-00	METAL CHIP 330 5% 1/10W	
R5	1-216-109-00	METAL CHIP 330K 5% 1/10W	(C70:G, IT)
R6	1-216-037-00	METAL CHIP 330 5% 1/10W	(C70:G, IT)
R7	1-216-025-00	METAL CHIP 100 5% 1/10W	
R8	1-216-037-00	METAL CHIP 330 5% 1/10W	(C70:E, AUS, EA, SP, JE)
R8	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	(C70:AEP, UK, G, IT)
R9	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R10	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R11	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(C70:AEP, UK, G, IT)
R12	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	(C70:AEP, UK, G, IT)
R13	1-216-089-00	METAL CHIP 47K 5% 1/10W	(C70:AEP, UK, G, IT)
R14	1-216-081-00	METAL CHIP 22K 5% 1/10W	(C70:AEP, UK, G, IT)
R15	1-216-121-00	METAL CHIP 1M 5% 1/10W	(C70:AEP, UK, G, IT)
R16	1-216-073-00	METAL CHIP 10K 5% 1/10W	(C70:E, AUS, EA, SP, JE)
R16	1-216-089-00	METAL CHIP 47K 5% 1/10W	(C70:AEP, UK)
R17	1-216-121-00	METAL CHIP 1M 5% 1/10W	(C70:E, AUS, EA, SP, JE)
R18	1-216-073-00	METAL CHIP 10K 5% 1/10W	(C70:E, AUS, EA, SP, JE)
R21	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R22	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R23	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R24	1-216-025-00	METAL CHIP 100 5% 1/10W	
R25	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R26	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R27	1-216-073-00	METAL CHIP 10K 5% 1/10W	(C70:AEP, UK, E, AUS, G, IT, EA, SP, JE)
R28	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R29	1-216-025-00	METAL CHIP 100 5% 1/10W	
R30	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	

Ref. No.	Part No.	Description				Remark
R31	1-216-043-00	METAL CHIP	560	5%	1/10W	
R32	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R33	1-216-035-00	METAL CHIP	270	5%	1/10W	
R34	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R35	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R36	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R37	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R38	1-216-025-00	METAL CHIP	100	5%	1/10W	
R39	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	(C70:AEP, UK, G, IT)
R40	1-216-043-00	METAL CHIP	560	5%	1/10W	(C70:AEP, UK, G, IT)
R41	1-216-049-00	METAL CHIP	1K	5%	1/10W	(C70:AEP, UK, G, IT)
R42	1-216-035-00	METAL CHIP	270	5%	1/10W	(C70:AEP, UK, G, IT)
R43	1-216-081-00	METAL CHIP	22K	5%	1/10W	(C70:AEP, UK, G, IT)
R44	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	(C70:AEP, UK, G, IT)
R45	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	(C70:AEP, UK, G, IT)
R46	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	(C70:AEP, UK, G, IT)
R47	1-216-025-00	METAL CHIP	100	5%	1/10W	(C70:US, CND, E, AUS, EA, SP, JE/C90)
R51	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R52	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R53	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R54	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R55	1-216-075-00	METAL CHIP	12K	5%	1/10W	(C70:US, CND, AEP, UK, E, AUS, EA, SP, JE/C90)
R56	1-216-075-00	METAL CHIP	12K	5%	1/10W	(C70:G, IT)
R57	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R58	1-216-066-00	METAL CHIP	5.1K	5%	1/10W	
R59	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R60	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R61	1-216-115-00	METAL CHIP	560K	5%	1/10W	
R62	1-216-115-00	METAL CHIP	560K	5%	1/10W	
R63	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R64	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R65	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R66	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R67	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R68	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R69	1-216-025-00	METAL CHIP	100	5%	1/10W	
R70	1-216-025-00	METAL CHIP	100	5%	1/10W	
R71	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R72	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R73	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R74	1-216-013-00	METAL CHIP	33	5%	1/10W	
R75	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	(C70:AEP, UK, G, IT)
R79	1-216-049-00	METAL CHIP	1K	5%	1/10W	(C70:US, CND, AEP, UK, E, AUS, EA, SP, JE/C90)
R79	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	(C70:G, IT)
		< VARIABLE RESISTOR >				
RV51	1-238-601-11	RES, ADJ, CARBON 22K				(MW/LW TUNED IND. LEVEL)
RV52	1-238-601-11	RES, ADJ, CARBON 22K				(FW TUNED IND. LEVEL)
		< COIL >				
T1	1-402-547-11	COIL (ANT FOR SW3)				(C70:E, AUS, EA, SP, JE)
T2	1-406-415-11	COIL (OSC FOR SW3)				(C70:E, AUS, EA, SP, JE)
		< TEST PIN >				
* TP51	1-564-336-00	PIN, CONNECTOR 2P				(C70:US, CND, AEP, UK, E, AUS, EA, SP, JE/C90)
* TP51	1-568-449-11	HOUSING, CONNECTOR (PC BOARD) 3P				(C70:G, IT)
		< VIBRATOR >				
X21	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)				
X51	1-577-075-11	OSCILLATOR, CERAMIC (456kHz)				
**********						
*	1-649-358-11	TUNER BOARD				
		**********				(C70:US, CND, E, AUS, EA, SP, JE/C90)
*	1-649-359-11	TUNER BOARD				(C70:AEP, UK, G, IT)
		**********				
		< CONNECTOR >				
* CN301	1-568-856-11	SOCKET, CONNECTOR 13P				
* CN302	1-691-007-11	CONNECTOR (PC BOARD) (PLUG) 4P				
* CN303	1-691-007-11	CONNECTOR (PC BOARD) (PLUG) 4P				
CN304	1-764-187-11	PIN, CONNECTOR				
* CN305	1-691-007-11	CONNECTOR (PC BOARD) (PLUG) 4P				
* CN307	1-569-504-11	PIN, CONNECTOR 9P				
		< TERMINAL >				
* TM301	1-537-288-11	TERMINAL BOARD, ANTENNA (PAL)				(ANTENNA) (C70:AEP, UK, G, IT)
TM301	1-537-466-11	TERMINAL BOARD (ANT)				(ANTENNA) (C70:US, CND, E, AUS, EA, SP, JE/C90)
**********						

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		*************	
15	1-751-690-11	WIRE (FLAT TYPE) (21 CORE)	
16	1-751-659-11	WIRE (FLAT TYPE) (22 CORE)	
17	1-751-688-11	WIRE (FLAT TYPE) (13 CORE)	
⚠155	8-848-144-11	DEVICE, OPTICAL KSS-240A	
156	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
158	1-751-597-11	WIRE (FLAT TYPE) (22 CORE)	
M101	X-4917-523-3	MOTOR ASSY, DISK (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M103	A-4660-232-A	MOTOR (CDM) ASSY (LOADING)	
M104	A-4660-232-A	MOTOR (CDM) ASSY (UP/DOWN)	
M105	A-4660-232-A	MOTOR (CDM) ASSY (CLAMP)	
S101	1-572-085-11	SWITCH LEAF (LIMIT)	
S102	1-466-819-11	ENCODER, ROTARY	
		ACCESSORIES & PACKING MATERIALS	
		********************************	
	1-467-258-11	REMOTE COMMANDER (C70:AEP, G, IT)	
	1-501-374-11	ANTENNA, LOOP (C70:AEP, G, IT)	
	1-501-594-11	ANTENNA (FM) (C70:AEP, G, IT)	
⚠	1-575-131-11	CORD, POWER (C70:AEP, G, IT)	
	1-751-469-11	CORD (WITH CONNECTOR) (C70:AEP, G, IT)	
	3-372-531-01	SCREW (C), TRANSPORT	
	3-757-494-11	MANUAL, INSTRUCTION (ENGLISH) (AEP)	
	3-757-494-41	MANUAL, INSTRUCTION (FRENCH, SPANISH, SWEDISH, PORTUGUESE, DUTCH) (AEP)	
	3-757-494-51	MANUAL, INSTRUCTION (GERMAN, ITALIAN) (AEP, G, IT)	
	3-707-584-21	COVER (MLY), BATTERY (COMMANDER) (C70:AEP, G, IT)	
*	4-960-930-01	INDIVIDUAL CARTON (C70:AEP, G, IT)	
*	4-960-933-01	CUSHION (H) (FRONT) (C70:AEP, G, IT)	
*	4-960-934-01	CUSHION (H) (REAR) (C70:AEP, G, IT)	

Ref. No.	Part No.	Description	Remark
		******************	
		HARDWARE LIST	
		******************	
#1	7-682-547-09	SCREW +BVTT 3X6 (S)	
#2	7-685-870-01	SCREW +BVTT 3X5 (S)	
#3	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#4	7-685-531-14	SCREW +BTP 2.6X4 TYPE2 N-S	
#5	7-621-770-XX	SCREW +PTT 2.6X8 (S)	
#6	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#7	7-682-546-09	SCREW +PTT 3X5 (S)	
#9	7-621-775-00	SCREW +B 2.6X3	
#8	7-685-645-79	SCREW +BTP 3X6 TYPE2 N-S	
#10	7-685-131-19	SCREW +BTP 2.6X4 TYPE2 N-S	
#11	7-621-773-95	SCREW +BVTT 2.6X6 (S)	
#12	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

9-959-101-11

Sony Corporation
Audio Group

English
93H09101-1
Printed in Japan
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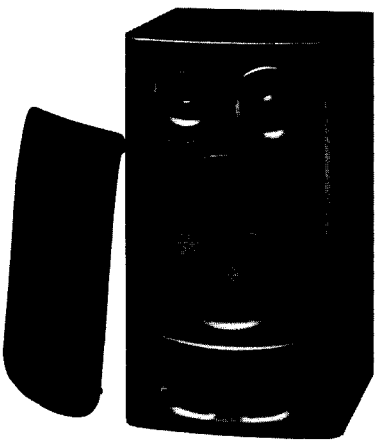
Published by Audio Sector Quality Assurance Dept.

SS-M90N

SERVICE MANUAL

US Model
Canadian Model



- **SS-M90N is the speaker system in MHC-C90.**

Photo: Right channel speaker

SPECIFICATIONS

Speaker system	3-way
Speaker units	Woofer: 17 cm ($6^3/_4$ in.) dia., cone type Tweeter: 3 cm (1^3 $/_{16}$ in.) dia., soft dome type Super tweeter: 2 cm (^{13} $/_{16}$ in.) dia., dome type
Sensitivity	89 dB/W/m
Effective frequency range	40 — 20,000 Hz
Rated impedance	6 ohms
Dimensions	Approx. 220 x 390 x 270 mm ($8^3/_4$ x $15^3/_8$ x $10^3/_4$ in.) (w/h/d)
Mass	Approx. 6.1 kg (13 lb 7 oz)

SPEAKER SYSTEM

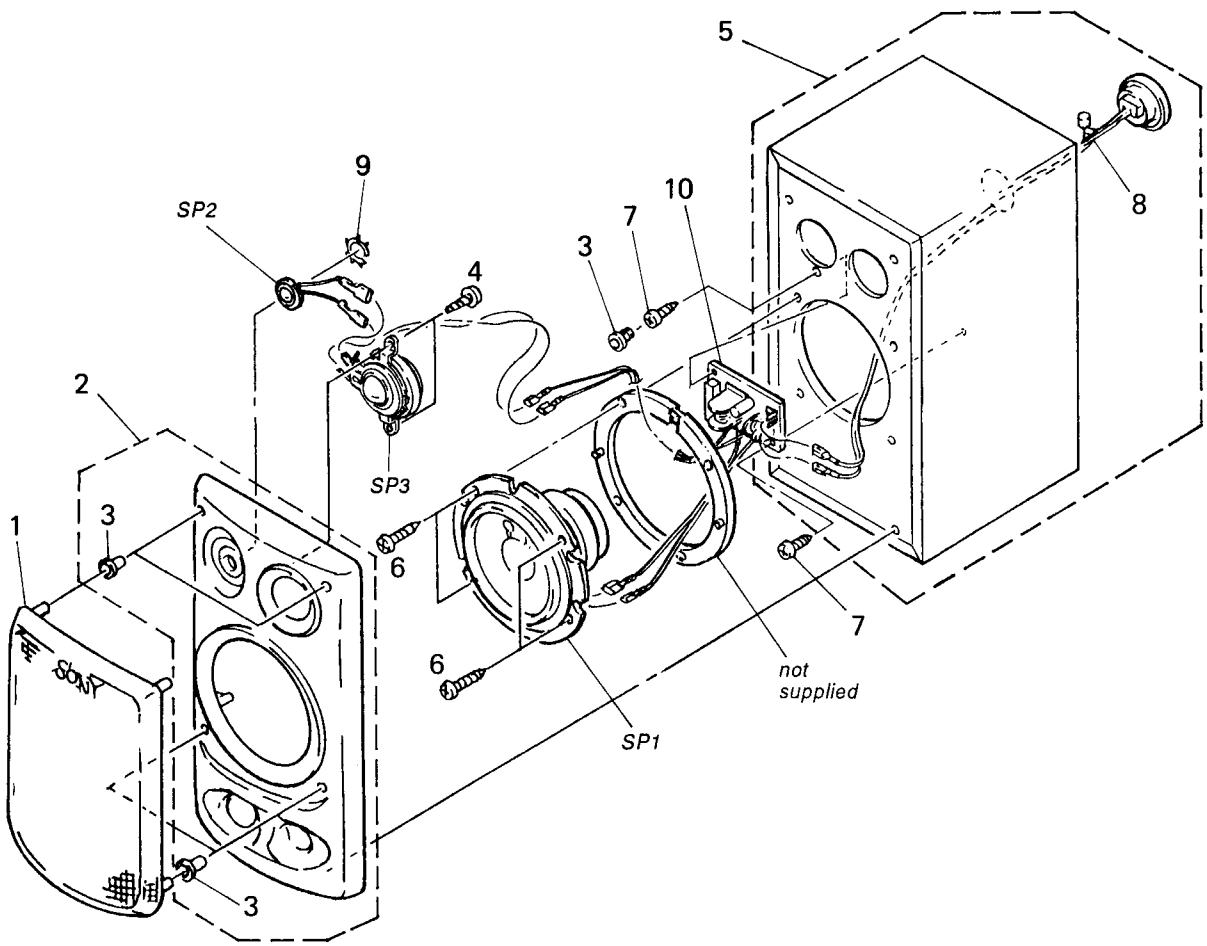
SONY®

SECTION 1
EXPLODED VIEW

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

Illustration: Left Channel



Ref. No.	Part No.	Description	Remark
1	X-4943-348-1	FRAME ASSY, GRILLE	
2	X-4943-798-1	PANEL (R) ASSY, FRONT	
2	X-4943-799-1	PANEL (L) ASSY, FRONT	
3	4-912-253-01	CATCHER	
4	7-685-662-79	SCREW +BVTP 4X14 TYPE2 IT-3	
* 5	X-4943-800-1	CABINET ASSY, SPEAKER	
6	7-685-166-01	SCREW +P 4X30 TYPE4	
7	4-949-145-01	SCREW (3.5X18), TAPPING	
8	1-590-443-21	CORD, CONNECTION	
9	4-962-009-01	RING, RETAINING	
10	1-589-553-11	PC BOARD (NETWORK)	
SP1	1-504-342-11	SPEAKER (WOOFER)	
SP2	1-504-435-11	SPEAKER (2CM) (SUPER TWEETER)	
SP3	1-504-414-11	SPEAKER (3CM) (TWEETER)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
*	4-957-358-01	CUSHION	

9-959-147-11

Sony Corporation
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English
93H0532-1
Printed in Japan

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